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Herpetofauna Inventory of Bureau of Land Management sites
in
Douglas, Franklin, Grant, Lincoln, Klickitat,
Washington
1998

Summary of Work Completed in 1998

Submitted by

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In coordination with:
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EXECUTIVE SUMMARY

Amphibian and reptile surveys were conducted on BLM Public Lands as part of a statewide project documenting the distribution and habitats of Washington's amphibians and reptiles. The focus of the BLM inventory was to create a species list for each site and to determine relative abundance. This information will be used to establish a base line for future monitoring. This was the first amphibian and reptile inventory conducted on these properties.

Surveys took place from April through September at sites located in Adams, Douglas, Franklin, Grant, Lincoln and Klickitat counties. Most sites are located in the Columbia Basin Ecoregion in the steppe vegetation zones of Washington. The habitat at the Rock Creek site (Klickitat County), is in the Oregon oak-ponderosa pine vegetation zone. A variety of survey areas, typical of the habitats found at each site, were chosen for the surveys. Areas outside of the BLM property boundary were also surveyed if it seemed the area would contribute to the understanding of the herpetofauna on the BLM properties and/or if those areas provided easier access or better survey conditions.

Five survey methods were used. Visual encounter surveys were conducted during the day. They involved walking through habitats searching on the surface and under surface debris for animals. Visual encounter surveys were also used in aquatic habitats to search for eggs, larvae and adult animals. A dip net was used to capture larval amphibians in aquatic habitats. Road surveys were conducted, both during the day and at night, for snakes and anurans. Call surveys were conducted for breeding anurans. Aquatic funnel traps were used at some sites to capture aquatic amphibian larvae. Methods were chosen to optimize detection of each species at a site.

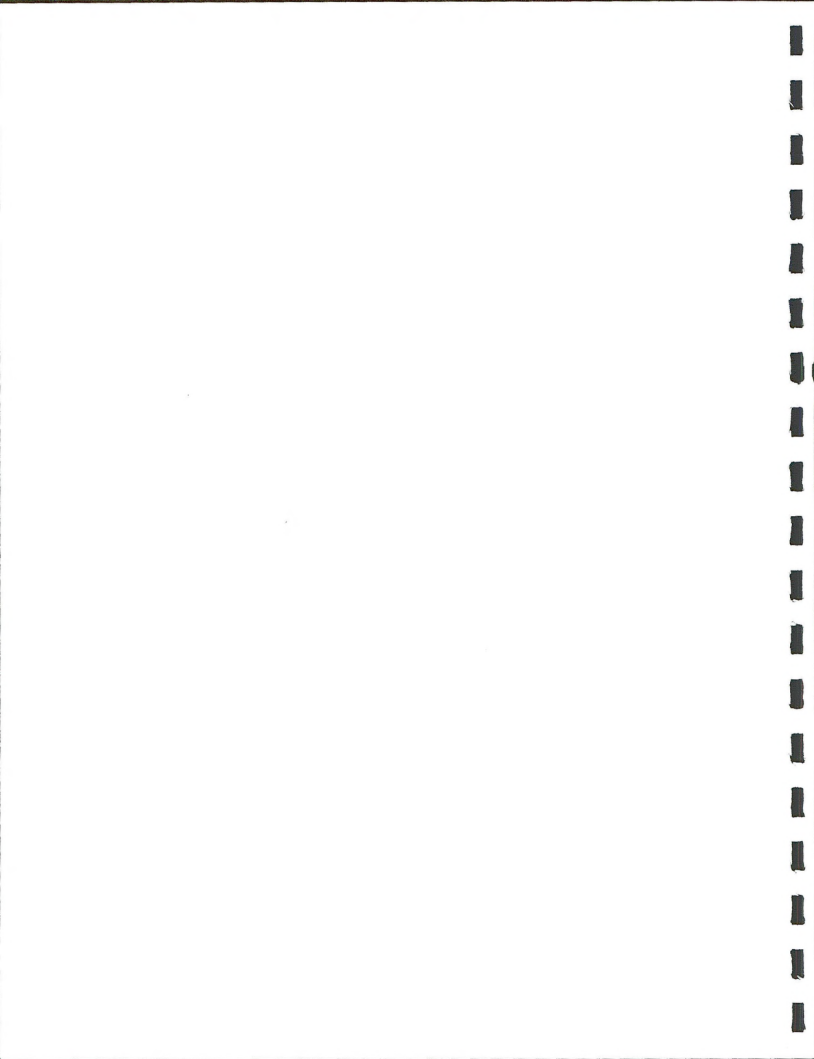
Two hundred sixty-six animals were recorded and mapped during the 1998 field season. This included seven amphibian and twelve reptile species. Records include the amphibians and reptiles that were found during site surveys and also those found while driving to and from the survey sites. Information pertaining to life history, weather, habitat, microhabitat and location was collected for each animal found. Point locations were generated for each animal using UTM's. This information was entered into Excel spreadsheets and distribution maps were generated using GIS.

Information collected during these surveys will be used in the state-wide project documenting the amphibians and reptiles of Washington State.



TABLE OF CONTENTS

	Page
Table of Contents	1
List of Tables	2
List of Maps	2
List of Photographs	2
Introduction	3
Sampling Methods	5
Results	7
Discussion	10
Acknowledgments	12
Literature Cited	13
Personal Communications.....	14
Appendices	
A. Survey Site Location.....	15
B. Standardized data sheets	16
C. Four-letter species code used on data sheets and maps.....	17
D. Range maps of Amphibians and Reptiles from 1998 BLM Inventory	18
E. BLM Inventory Data Spreadsheets.....	19



List of Tables

Table 1. The amphibians and reptiles of the Columbia Basin Ecoregion.....	3
Table 2 . Survey dates for 1998 Inventory.....	7
Table 3. Amphibian and reptile species detected in the Rock Creek area.....	7
Table 4. Amphibian and reptile species detected in the Douglas Creek area	8
Table 5. Amphibian and reptile species detected in the Wilson Creek area	8
Table 6. Amphibian and reptile species detected in the Saddle Mountain area.....	9
Table 7. Amphibian and reptile species detected in the Juniper Dunes area.....	9

List of Maps

Map 1. Study Sites	15
Map 2. Distribution of species found in the Rock Creek area.....	18
Map 3. Distribution of species found in the Douglas Creek area.....	18
Map 4. Distribution of species found in the Wilson Creek area.....	18
Map 5. Distribution of species found in the Saddle Mountain area.....	18
Map 6. Distribution of species found in the Juniper Dunes area.....	18



INTRODUCTION

Surveys were conducted on BLM Public Lands as part of a statewide project documenting the distribution of Washington's amphibians and reptiles. The focus of this inventory was to create a species list for each site and to determine relative abundance. This information will establish a baseline for future monitoring. This was the first herpetofauna inventory conducted at these sites.

Twenty-five species of amphibians and reptiles occur in the Washington Columbia Basin Ecoregion (Nussbaum et al. 1983, Stebbins 1985, McAllister 1995, Dvornich et al. 1997) (Table 1). Of these, approximately twelve species have distributions throughout or in the center of the ecoregion. They include the tiger salamander (primarily east of the Columbia River), long-toed salamander (except for the driest areas), Pacific treefrog, Great Basin spadefoot, painted turtle, short-horned lizard, western skink, sagebrush lizard, common garter snake, western terrestrial garter snake, racer, gopher snake and rattlesnake. The Columbia spotted frog, rubber boa, western fence lizard, southern alligator lizard, western toad and ringneck snake occur primarily at the edges of the Columbia Basin, with the latter four species occurring primarily in association with Oregon oak - Ponderosa pine habitat. The Woodhouse's toad distribution is in the southeastern area of the state in association with the Snake and Columbia rivers. Species such as the striped whipsnake, night snake and leopard frog are rare, with the leopard frog currently only known from the Upper Crab Creek area of the Columbia Basin. The bullfrog is not native to the Pacific Northwest (Nussbaum et al. 1983, Stebbins 1985) but is now found in many areas of the Columbia Basin.

Table 1. The amphibians and reptiles of the Columbia Basin Ecoregion (P-indicates that the species is predicted to occur based on Dvornich et al. 1997).

Common Name	Species	Rock Creek	Douglas Creek	Wilson Creek	Saddle Mountain	Juniper Dunes
Long-toed Salamander	<i>Ambystoma macrodactylum</i>	P	P	-	-	-
Tiger Salamander	<i>Ambystoma tigrinum</i>	-	P	P	P	P
Pacific Treefrog	<i>Hyla regilla</i>	P	P	P	P	P
Western Toad	<i>Bufo boreas</i>	P	-	-	-	-
Woodhouse's Toad	<i>Bufo woodhousei</i>	-	-	-	P	P
Columbia Spotted Frog	<i>Rana luteiventris</i>	?	-	P	-	-
Great Basin Spadefoot	<i>Scaphiopus intermontanus</i>	-	P	P	P	P
Painted Turtle	<i>Chrysemys picta</i>	-	P	-	P	-
Slide-blotched Lizard	<i>Uta stansburiana</i>	-	P	-	P	-
Western Fence Lizard	<i>Sceloporus occidentalis</i>	P	-	-	-	-
Sagebrush Lizard	<i>Sceloporus graciosus</i>	-	P	P	P	P
Southern Alligator Lizard	<i>Elgaria multicarinata</i>	P	-	-	-	-
Short-horned Lizard	<i>Phrynosoma douglassii</i>	-	P	P	P	P
Western Skink	<i>Eumeces skiltonianus</i>	P	P	-	P	-
Western Terrestrial Garter Snake	<i>Thamnophis elegans</i>	P	P	-	P	-
Common Garter Snake	<i>Thamnophis sirtalis</i>	P	P	P	P	-
Racer	<i>Coluber constrictor</i>	P	P	P	P	P
Striped Whipsnake	<i>Masticophis lateralis</i>	-	P	-	P	-
Rubber Boa	<i>Charina bottae</i>	P	P	-	P	-
Ringneck Snake	<i>Diadophis amabilis</i>	P	-	-	-	-
Night Snake	<i>Hypsiglena torquata</i>	P	P	-	P	P
Gopher Snake	<i>Pituophis catenifer</i>	P	P	P	P	P
Western Rattlesnake	<i>Crotalus viridis</i>	P	P	P	P	P



The Survey Areas

Inventory work in 1998 took place on five BLM Public Lands (Map 1). The sites included Douglas Creek, Juniper Dunes, Saddle Mountain, Wilson Creek and Rock Creek (Douglas, Franklin, Grant, Lincoln and Klickitat counties respectively). These sites are all located in the Columbia Basin Ecoregion, primarily in the steppe vegetation zones of Washington (Dvornich et al. 1997). The Rock Creek Site, Klickitat County, is within the oak-Ponderosa pine vegetation zone (Dvornich et al. 1997). The climate is characterized by hot summers and cold winters. Precipitation varies from approximately 8 inches (Juniper Dunes) to 15 inches (Rock Creek), with less rain occurring in the center of the Columbia Basin (National Weather Service 1998).

The Rock Creek site -- is in the transition between shrub-steppe and Oregon oak-ponderosa pine habitat. The site itself is primarily Oregon oak-ponderosa pine-bitterbrush. Large areas with no trees or shrubs also occur. Aquatic habitats include intermittent springs, streams, forested wetland, small-seasonal ponds, seeps and Rock Creek. Rock out-crops and talus are common at the site. Habitats along Box Canyon Road, Rock Creek Road and Goldendale-Bickleton Highway were included in the survey area. Property surrounding BLM land was also surveyed including The Nature Conservancy properties and Department of Natural Resources property.

The Douglas Creek site -- is located within a canyon. Vegetation is shrub-steppe, with riparian vegetation occurring along Douglas Creek. Douglas Creek is the main aquatic habitat for the site. Small streams, a spring box and cattle ponds are also present at the site. Rock out-crops and talus fields are common throughout the site.

The Wilson Creek site -- is in shrub-steppe vegetation zone. Trees occur in some riparian areas and around the spring. Aquatic areas include ponds, a spring and Wilson Creek. Rock-outcrops are common at the site.

The Saddle Mountain site -- includes the west end of Saddle Mountain, a dune and a small area along the Columbia River. The vegetation is shrub-steppe. Aquatic habitats include a spring, an intermittent basalt pond and the shoreline of the Columbia River. Lower Crab Creek runs north of Saddle Mountain. Habitats in the Lower Crab Creek area were surveyed as part of this site.

The Juniper Dunes site -- is a system of dunes with scattered juniper trees. The site does not have any aquatic habitats, rock outcrops or talus. The site is surrounded by irrigated agriculture land. There is a wetland, created by irrigation water, east of the site. This wetland and the Pasco-Kohlotus Highway were included in the survey area.



SAMPLING METHODS

Many techniques have been described for the inventory and monitoring of amphibian and reptile populations (Halliday 1996, Heyer et al. 1994, Olson et al. 1997). Each method varies in its detection success, cost, effort and feasibility. This inventory utilized five primary detection techniques with the goal of optimizing the number of species detected. A brief summary of these methods follows. Survey method terminology is based primarily on Heyer et al. (1994). All data were recorded on standardized survey forms (Appendix B). Each amphibian sighting was mapped using USGS 7 1/2 minute topographic maps.

Visual Encounter Surveys (VES) - involve walking through an area systematically searching for animals on the surface and under objects. VES are also used to search aquatic habitats for animals, larvae and eggs. VES were timed. This method is used to determine species richness of an area and relative abundance.

Call Survey (Call) - Most male anurans produce vocalizations, particularly during the breeding season, to advertise their position. These species-specific advertisement calls can be used to locate breeding habitat, determine species composition at breeding sites, record breeding phenology of a species and estimate the relative abundances of adult males (Zimmerman 1994). Call surveys were used to locate breeding habitats. Potential breeding sites were located using topographic maps. Surveys at potential breeding sites were conducted after dusk. Where possible, a return visit was made to the site to confirm the presence of eggs and larvae.

Road Surveys (Road) - Road surveys have been found effective for detecting certain species of amphibians (Shaffer and Juterbock 1994, Stebbins 1985). The main advantage of this method is that many miles can be surveyed in a relatively short period of time. Road surveys were conducted during the day for snakes and lizards and at night for anurans and snakes. Start time, end time and mileage was recorded for each road survey.

Aquatic Funnel Trapping (AFT) - Aquatic funnel trapping has been shown to be effective in measuring both presence and relative abundance of aquatic amphibians (Richter 1995, Halliday 1996, Adams et al. 1997). Commercially available collapsible mesh minnow aquatic funnel traps (approx. 0.5 m long x .3 m diameter) were used for this inventory. Traps were placed approximately every 10 meters along the shore. The number of traps used varied by the size and depth of the wetland.

Dip net - A long-handled, mesh, dip net was used at many sites to capture larvae. They are particularly effective for detecting hidden larvae at sites with poor water visibility and/or lots of vegetation.

Sampling Schedule

Surveys were conducted in the spring of 1998 to maximize detection of breeding amphibians and to collect information on breeding sites. Survey time varied by method, but started as early as 7:00 AM and went as late as 1:00 AM. Surveys took place from March to September. A



variety of survey areas, typical of the habitats found at each site, were chosen for the surveys. Areas outside of BLM property boundaries were also surveyed if it seemed the area would contribute to the understanding of the herpetofauna on the BLM properties and/or if those areas provided easier access or better survey conditions.

Voucher Specimens

Specimens were salvaged off roads and other areas where they were found dead. All specimens collected were deposited into the University of Michigan Zoology Museum.



RESULTS

Two hundred and sixty-six sightings of seven amphibian and twelve reptile species were recorded during the 1998 field season. These include the amphibians and reptiles found during site surveys and any species found driving to and from the survey sites. Information, pertaining to life history, weather, habitat, microhabitat and location, was collected for each animal found. Location data included Township, Range, Section, Universal Transverse Mercator (UTM) point location and a description of where the site was in relation to the nearest road, geographic feature or structure. This information was entered into Excel spreadsheets (Appendix E) and distribution range maps were generated for each species encountered using GIS (Appendix D). Survey dates and species lists for each site are summarized in the following tables (Table 2 - 7). All species predicted to occur at the site (Dvornich et al. 1997) are listed, even if they were not found.

Table 2 . Survey dates for 1998 Inventory.

Rock Creek	April 20-24	June 8-12	Sept. 21-24
Douglas Creek	April 27-28	June 15, 17-18	-
Wilson Creek	April 29-30	June 16-17	-
Saddle Mountain	May 11-13	Aug. 18-21	-
Juniper Dunes	May 26-27	July 7-9	-

Table 3. Amphibian and reptile species detected in the Rock Creek area.

Amphibians	Detected	Reptiles	Detected
Long-toed Salamander	yes	Western Terrestrial Garter snake	yes
Pacific Treefrog	yes	Common Garter Snake	yes
Western toad	yes	Racer	yes
Bullfrog	no	Rubber Boa	no
Reptiles	Detected	Ringneck Snake	no
Western Fence Lizard	yes	Night Snake	no
Southern Alligator Lizard	yes	Gopher Snake	yes
Western Skink	yes	Western Rattlesnake	yes



Table 4. Amphibian and reptile species detected in the Douglas Creek area.

Amphibians	Detected	Reptiles	Detected
Long-toed Salamander	yes	Short-horned Lizard	no
Tiger Salamander	no	Western Skink	no
Pacific Treefrog	yes	Common Garter Snake	yes
Great Basin Spadefoot	no	Western Terrestrial Garter Snake	yes
Bullfrog	no	Gopher Snake	yes
		Racer	yes
Reptiles	Detected	Rubber Boa	no
Painted Turtle	no	Striped Whipsnake	no
Side-blotched Lizard	no	Night Snake	no
Sagebrush Lizard	no	Western Rattlesnake	yes

Table 5. Amphibian and reptile species detected in the Wilson Creek area.

Amphibians	Detected	Reptiles	Detected
Long-toed Salamander	yes	Painted Turtle	yes
Tiger Salamander	yes	Sagebrush Lizard	no
Pacific Treefrog	yes	Short-horned Lizard	no, but does occur*
Great Basin Spadefoot	yes	Western Terrestrial Garter Snake	yes
Columbia Spotted Frog	no	Common Garter Snake	yes
Bullfrog	no	Racer	yes
		Gopher Snake	yes
		Western Rattlesnake	no, but does occur*

* Reported at the site by BLM biologists



Table 6. Amphibian and reptile species detected in the Saddle Mountain area.

Amphibians	Detected	Reptiles	Detected
Long-toed Salamander	yes	Short-horned Lizard	no
Tiger Salamander	no	Western Skink	no
Pacific Treefrog	yes	Common Garter Snake	no
Great Basin Spadefoot	yes	Western Terrestrial Garter Snake	no
Columbia Spotted Frog	no	Gopher Snake	yes
Bullfrog	yes	Racer	yes
Reptiles	Detected	Rubber Boa	no
Painted Turtle	no	Striped Whipsnake	no
Side-blotched Lizard	yes	Night Snake	no
Sagebrush Lizard	yes	Western Rattlesnake	no

Table 7. Amphibian and reptile species detected in the Juniper Dunes area.

Amphibians	Detected	Reptiles	Detected
Tiger Salamander	yes	Short-horned Lizard	no
Pacific Treefrog	no	Sagebrush Lizard	yes
Great Basin Spadefoot	yes	Night Snake	no
Woodhouse's Toad	yes	Racer	no
Bullfrog	no	Gopher Snake	yes
		Western Rattlesnake	no



Discussion

This was the first amphibian and reptile inventory conducted at these BLM-managed lands. This inventory is part of a multi-year effort to survey these lands. Most sites will be surveyed again in 1999. Surveys conducted in 1998 focused on completing a species list for each site. For some sites, such as the Rock Creek area, the species lists are almost complete. Surveys at these sites will focus on finding rare species in 1999. The following is a brief summary of findings for each site. Information on individual sightings is listed in Appendix E.

The Rock Creek site – Three amphibian species were found in the Rock Creek area (Table 3). Pacific treefrogs are common in the area. They were breeding in a variety of habitats including Rock Creek (still-water edge), forested wetland, flooded borrow pit and streams. An adult long-toed salamander and larvae were found in a stream and pond just south of Box Canyon Road. The Rock Creek site falls within the area predicted to be peripheral habitat for the Western toad (Dvornich et al. 1997), but they were found at the site. Two were found at night on roads and two were found during the day in rocky areas.

Painted turtles were not found, but they have been introduced into a pond near the creek on private property. Western fence lizards and southern alligator lizards are common in the area. Southern alligator lizards may not have been active in April. None were seen until June visits, when they were frequently encountered. Western Fence lizards were found during all surveys periods. Only one western skink was found. All of the common snake species were found (Table 3). All of the species predicted to occur were found with the exception of ringneck snake, night snake and rubber boa. The ringneck snake has been found in this area of Klickitat County in the past (Dvornich et al. 1997). The other two snake species have not been found in the Rock Creek area.

The Douglas Creek site – Only a few days were spent at this site. Seven species were detected. Amphibian breeding habitat was limited. Douglas Creek is not suitable for breeding in most areas due to the rapid flow of water in the spring. Pacific treefrogs were found on the shores of the creek but calling was only heard at a few locations along the creek. Eggs and larvae of long-toed salamanders and Pacific treefrogs were found in slow or still water habitats. Treefrogs called from and laid eggs in the small stream that parallels Slack Canyon Road at the north entrance. Treefrog tadpoles were found in the cattle tanks and ponds. Long-toed salamander were found in a pond created by the overflow water of a cattle tank. All five reptile species found were snakes. The two garter snake species were found along the creek. Gopher snakes, racers and Western rattlesnakes were found at a variety of sites and are common.

The Wilson Creek site – Nine species were found in 1998. Two more species have been found in the past (Todd Thompson, pers. comm.) (Table 5). All four common Columbia Basin amphibians were found (Table 5). Tiger salamanders are common in some of the ponds. At times, they can be seen "breaching" at the surface. Both massive larvae and a transformed adult were captured in aquatic funnel traps set in one of the ponds.

Seven reptile species have been found at this site. Todd Thompson reported seeing painted



turtles in the past. This year, only disarticulated painted turtle bones were found. No lizards were seen, but Todd Thompson reported seeing short-horned lizards in the past. The common garter snake was found along Wilson Creek. The rest of the snakes were found on roads. No rattlesnakes were seen this year, but they have been found in the past (Todd Thompson, pers. comm). In April, three racers were found within close proximity of each other near Lewis Bridge (about one tenth mile southeast of the bridge). It is fairly unusual to see multiple racers in the same spot and may indicate the presence of a hibernation den in the area.

The Saddle Mountain site – Eight species were found during surveys in the Saddle Mountain area. All but one amphibian species was found near Lower Crab Creek. Bullfrogs were the one exception. They were found in a basalt pond near the Columbia River and on the river shore. The pond had dried by Aug. 18. The remains of hundreds of desiccated bullfrog tadpoles were clustered in the middle of the basalt depression. All the tadpoles were of similar size and no other larvae were found. During call surveys at this pond, no native species were heard (except spadefoots from the opposite (west) side of the river. Great Basin spadefoots and Pacific treefrogs were heard calling and were found on Lower Crab Creek Road. The long-toed salamander was found for the first time in this area. Nussbaum et al. (1983) reports that this species is not found in the driest parts of the Pacific Northwest. The closest documented site is in the western area of The Yakima Firing Range, Yakima County (Dept of Fish and Wildlife database). The Lower Crab Creek location extends the known range of this species approximately twenty miles into the Central Columbia Basin.

Four reptile species were found. The sagebrush lizard was found on sand dunes. This is typical habitat for this species in the Columbia Basin. Side-blotched lizard, gopher snake and racers were also found in the area. The striped whipsnake has been documented in this area, but none were found. Little is known about this species in Washington.

The Juniper Dunes site – Both attempts to survey this site were cut short by poor weather conditions. In May, temperatures were unusually cool and rainy. In July, temperatures were over 100 degrees (F). The Juniper Dunes do not have aquatic habitats, but there is a wetland (Eltopia Branch Irrigation Canal) near the west entrance. A larval tiger salamander, Woodhouse's toad tadpoles and Great Basin spadefoot tadpoles were found in this wetland. Both species were also heard calling from this site and adult Woodhouse's toads were seen foraging at night in July. Great Basin spadefoots were also found on the Pasco-Kohlotus Highway during night surveys. Nine spadefoots were found between Peterson Road and the entrance to Dalton Lake (approximately 7 miles) on August 20, 1998. Most of this area has been converted to crop land. Irrigation sprinklers could be heard at most sites where spadefoots were found.

Only two reptile species were found. The gopher snake was found on the Pasco-Kohlotus Highway during road surveys at night. The sagebrush lizard was found at six sites within the Juniper Dunes. In all cases, they were found under vegetation on dunes that had open sandy areas.



Future Work

Survey work in 1999 will focus on completing species lists for each site and finding rare species. Additional sites will also be surveyed. A summary of the life history information collected for each species will be summarized at the completion of the inventories. This information will be included in the 1999 BLM Inventory Final Report.

ACKNOWLEDGMENTS

Funding for this project was provided by the Bureau of Land Management. Todd Thompson and Neal Hedges contributed amphibian and reptile observations from the sites, contacted land owners and showed me around the sites. They also participated in some of the surveys. Amber Poly, an intern from The Evergreen State College, helped with surveys at Rock Creek and Saddle Mountain. Heather Harper and Scott Kreiter (BLM) assisted with surveys at Douglas Creek. Lori Saltzer, of the Washington Department of Fish and Wildlife, provided historic amphibian and reptile data. Lynn Cornelius, of The Nature Conservancy (TNC), arranged for access to private land and to TNC property at the Rock Creek site. Betty Stevens, Washington Natural Heritage Program, generated the species distribution maps.



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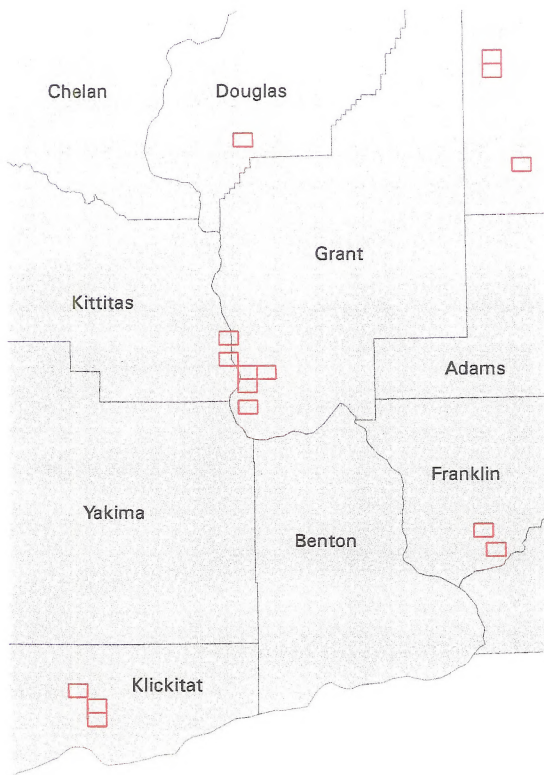


APPENDICES



Appendix A. Study Site Map







Appendix B. Standardized data sheet

Location:

Date:

Data no.

County:

Topo:

T _____ R _____ S _____ 1/4 _____ 1/41/4 _____

Manager/ownership:

UTM:

Description:

Survey: METHODS: Incidental VES (Ter/Aq) (Day/Night) Call (Day/Night) Road (Day/Night)
Dip net APT Array EQUIPMENT: binoculars rake canoe dip net funnel traps pit fall traps

Start: _____ End: _____ Observers: _____

Processing time _____ Person hours (total survey time) _____

Mileage: start _____ end _____ Total miles: _____

Description:

Weather: Temp (estimated/ measured) air _____ °C water _____ °C Wind calm light strong

Precip none light intermittent heavy Clouds 0 25 50 75 100 cu ci Water visibility NA none poor sat excellent

Comments:

Habitat:

Terrestrial: forest (C/D/M) age: yr. 10 50 100 0% cover _____ shrubland grassland urban

Aquatic: perm/ temp natural/ man. lotic (river/ stream/ spring/ creek/ seep/ irrigation canal) flow (l/min) _____ % emergent _____

lentic (wetland/ marsh/ pond/ lake/ ditch/ puddle) Size: _____ 1 acre depth: _____ 1 m open/forested heavier (active/ old)

Substrate: silt/ mud/ sand/ gravel/ cobble/ boulder Other: dune (veg/no veg) talus (veg/no veg) road sidewalk

Comments:

Species _____ Data no. _____

Capture time _____ UTM: _____

Qty./stage/sex _____ Location: _____

CAPTURED (Y/N) (N/D) MEASURED (Y/N)

Activity: _____ Comments: (N/D)

Microhabitat

SIGHTINGS OF SPECIES PREVIOUSLY DOCUMENTED FOR THIS SITE -- NO NEW DATA
AMGR AMMA TAGR PLVE ENES BUBU BUWO FYRE RAAU RACAT SCIN OTHER
ELCO ELMU MHDO SCGR SCOC UTST EUSK THEL THOR THSI CRVI PICA COCO OTHER



Appendix C. Four-letter species code

Amphibians

AMMA	Long-toed Salamander (<i>Ambystoma macrodactylum</i>)
AMTI	Tiger Salamander (<i>Ambystoma tigrinum</i>)
HYRE	Pacific Treefrog (<i>Hyla regilla</i>)
SCIN	Great Basin Spadefoot (<i>Scaphiopus intermontanus</i>)
RACAT	Bullfrog (<i>Rana catesbeiana</i>)
BUBU	Western Toad (<i>Bufo boreas</i>)
BUWO	Woodhouse's Toad (<i>Bufo woodhousei</i>)

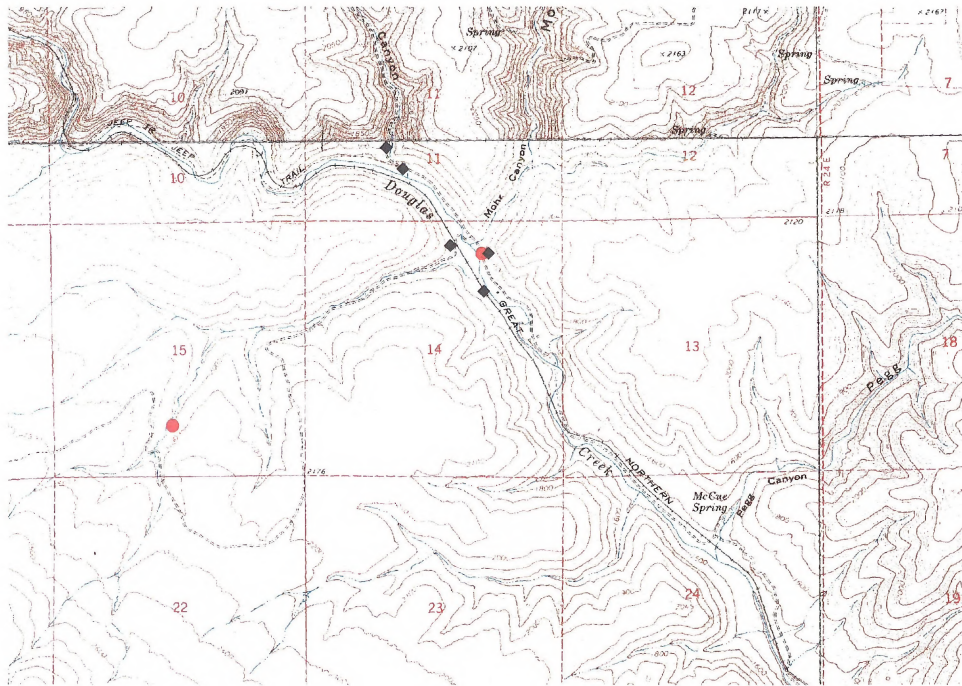
Reptiles

CHPI	Painted Turtle (<i>Chrysemys picta</i>)
EUSK	Western Skink (<i>Eumeces skiltonianus</i>)
SCGR	Sagebrush Lizard (<i>Sceloporus graciosus</i>)
SCOC	Western Fence Lizard (<i>Sceloporus occidentalis</i>)
URST	Side-blotched Lizard (<i>Uta stansburiana</i>)
ELGA	Souther Alligator Lizard (<i>Elgaria multicarinata</i>)
COCO	Racer (<i>Coluber constrictor</i>)
PICA	Gopher Snake (<i>Pituophis catenifer</i>)
THEL	Western Terrestrial Garter Snake (<i>Thamnophis elegans</i>)
THSI	Common garter snake (<i>Thamnophis sirtalis</i>)
DIPU	Ringneck Snake (<i>Diadophis punctatus</i>)
CRVI	Western rattlesnake (<i>Crotalus viridis</i>)



Appendix D. Range maps of Amphibians and Reptiles



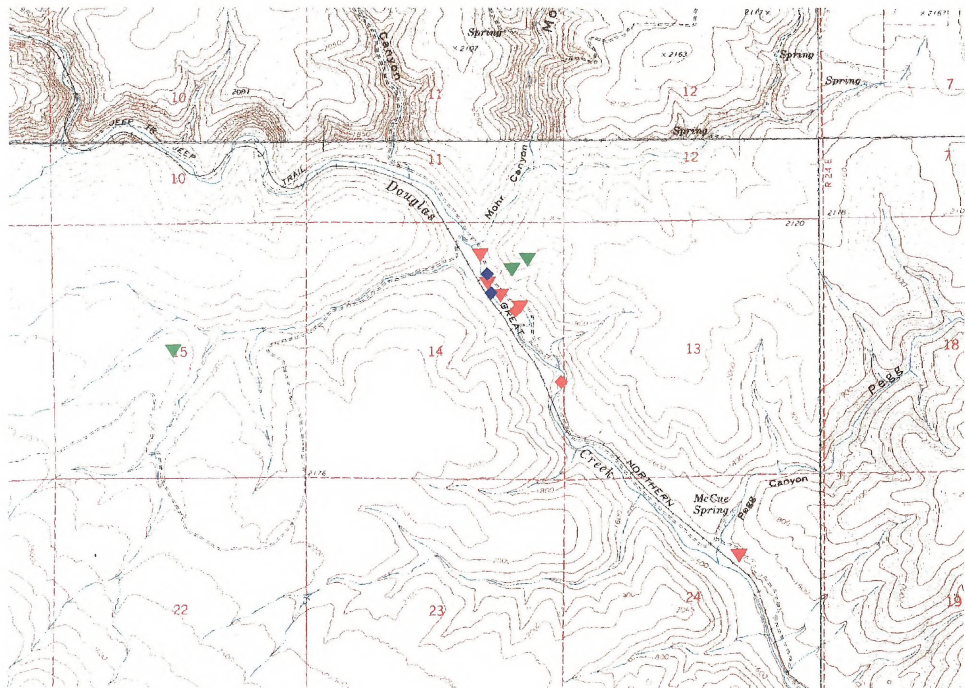


Amphibian Sites

- Long-toed salamander
- ◆ Pacific treefrog





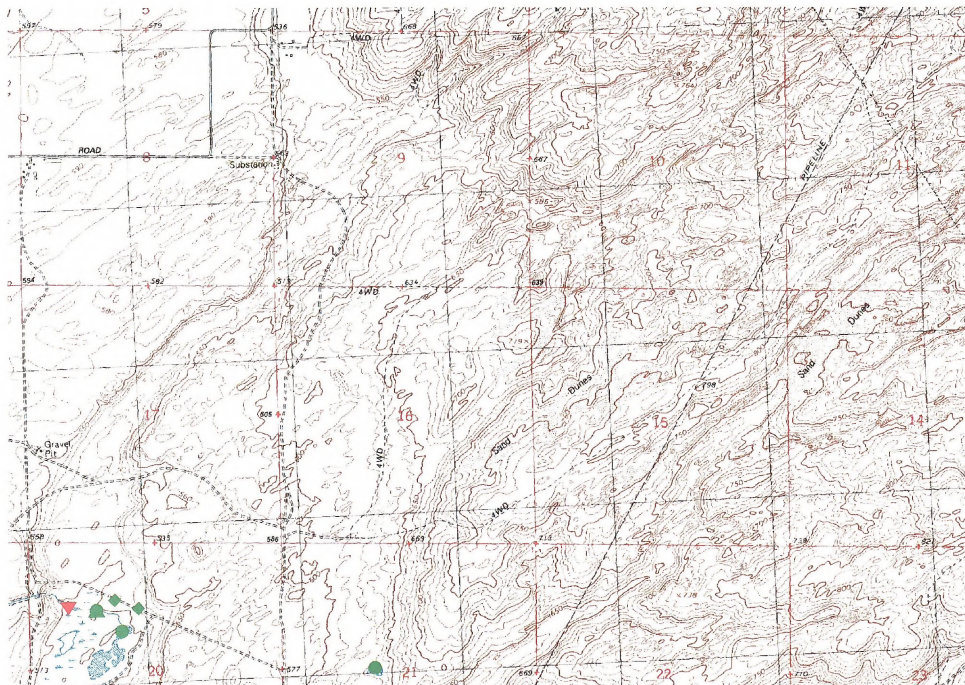


Reptile Sites

- ◆ Racer
- ◆ Western terrestrial garter snake
- ▲ Gopher snake
- ▲ Western rattlesnake







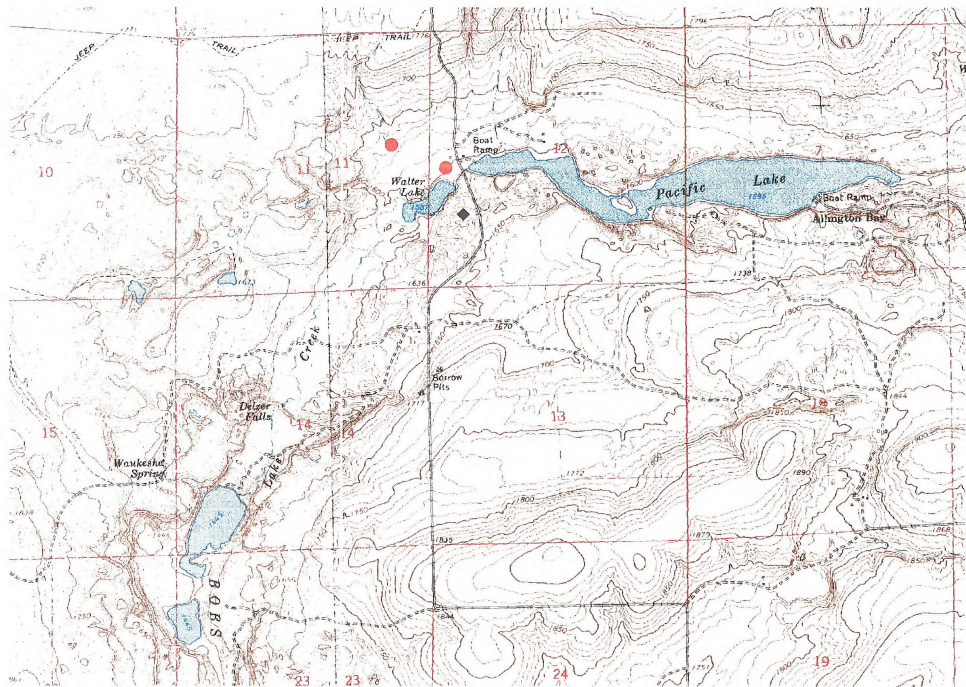
Amphibian Sites

- Great Basin spadefoot
- ◆ Woodhouse's toad
- ▼ Great Basin spadefoot & Woodhouse's toad
- ▲ Tiger salamander, Great Basin spadefoot & Woodhouse's toad







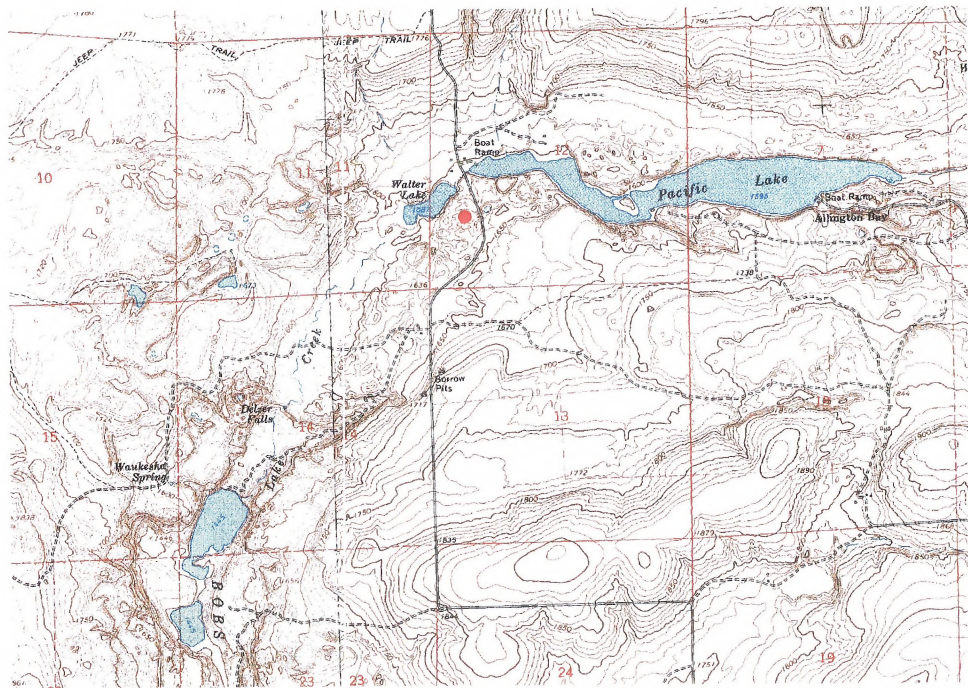


Amphibian Sites

- Long-toed salamander
- ◆ Pacific treefrog







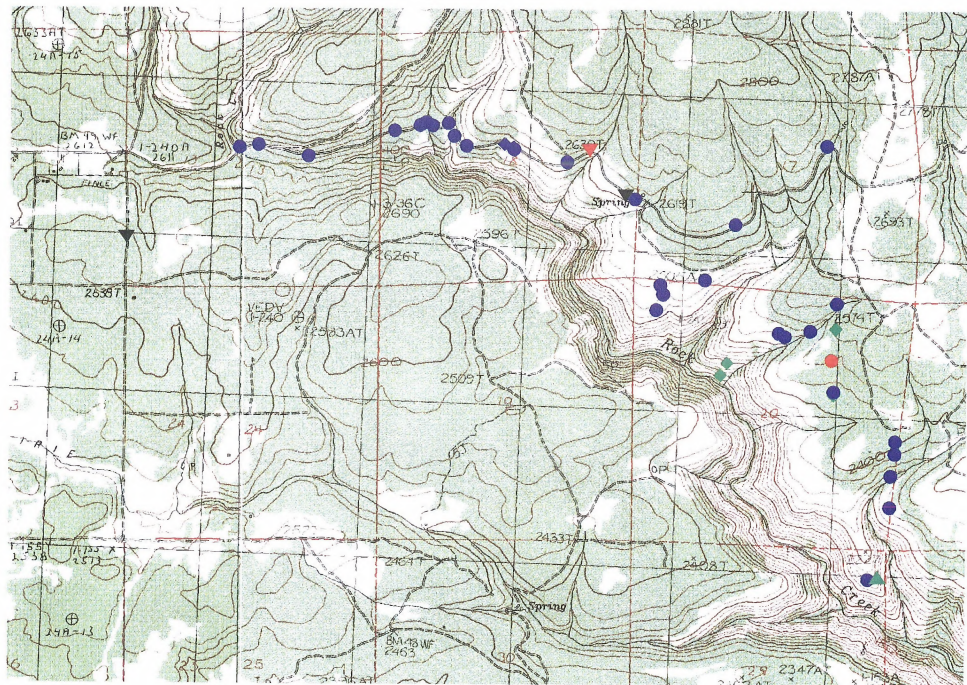
Reptile Sites

● Western skink









Reptile Sites

● Western skink
◆ Racer

◆ Southern alligator lizard
● Western fence lizard

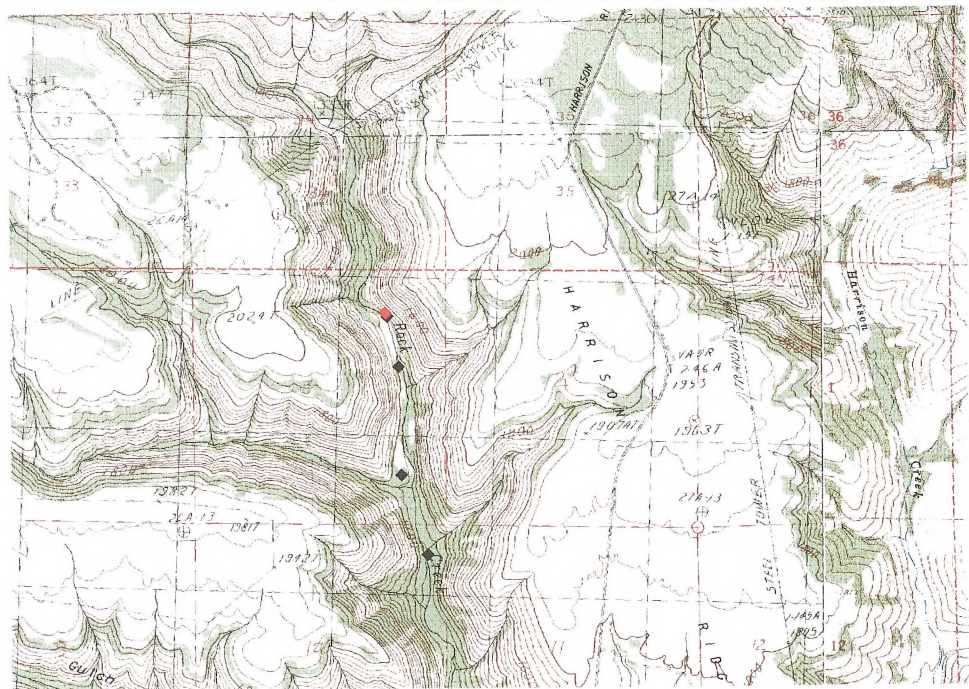
▼ Gopher snake

▼ Common garter snake

▲ Western fence lizard & Southern alligator lizard





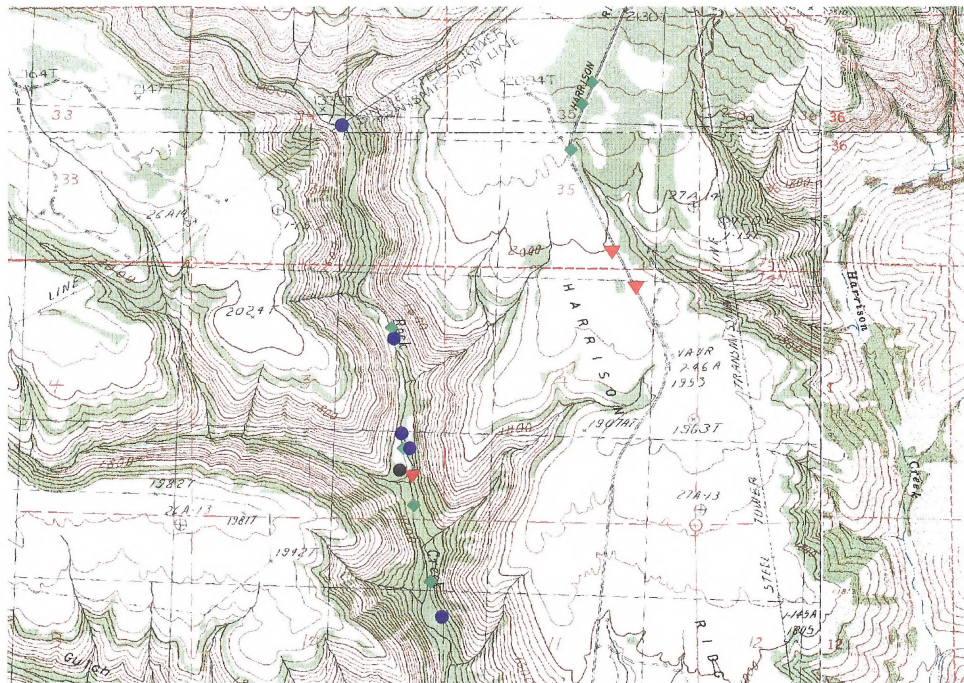


Amphibian Sites

- ◆ Pacific treefrog
- ◆ Western toad







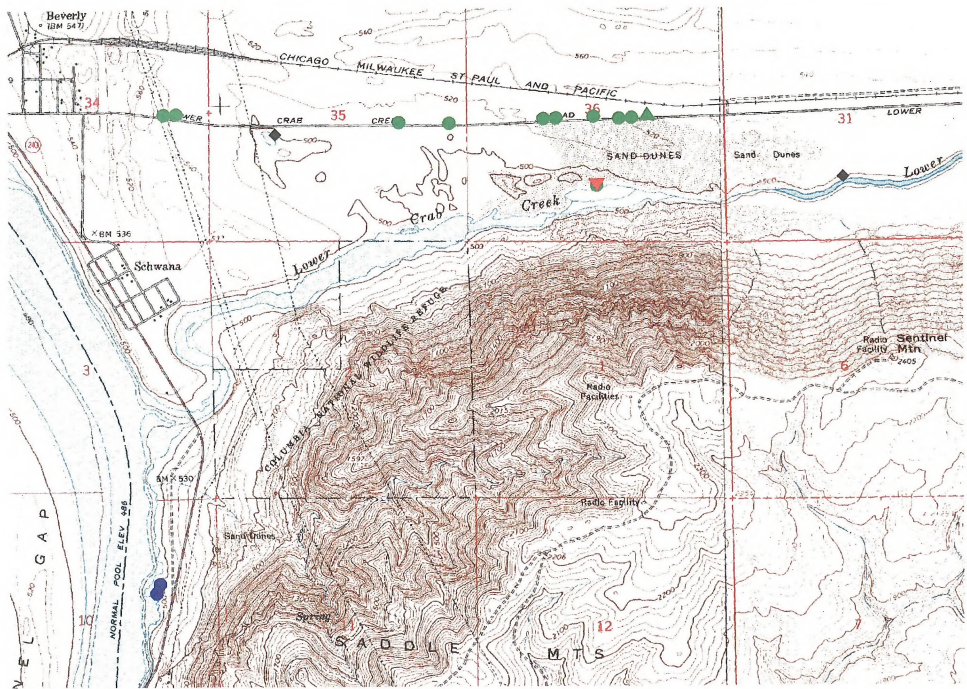
Reptile Sites

- Painted turtle
- ◆ Southern alligator lizard
- ▼ Gopher snake
- Western fence lizard
- ◆ Racer

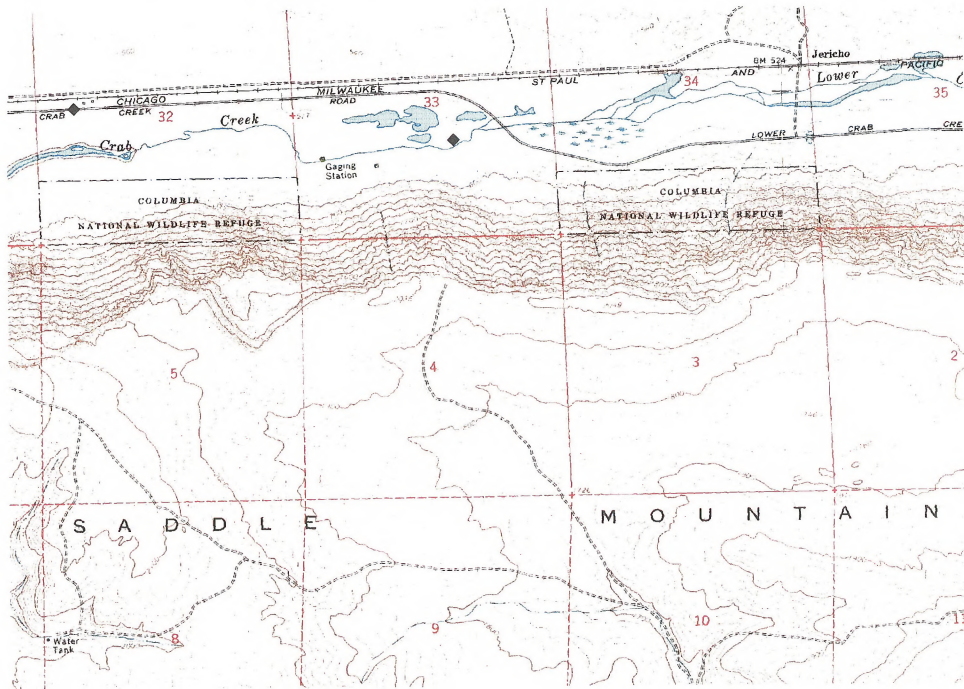










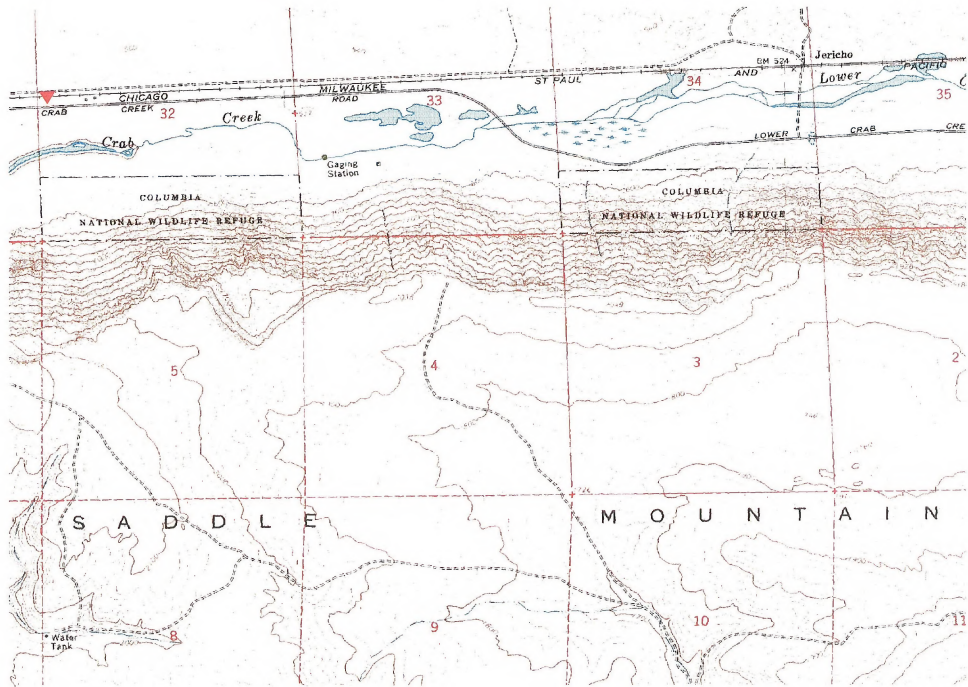


Amphibian Sites

- ◆ Pacific treefrog





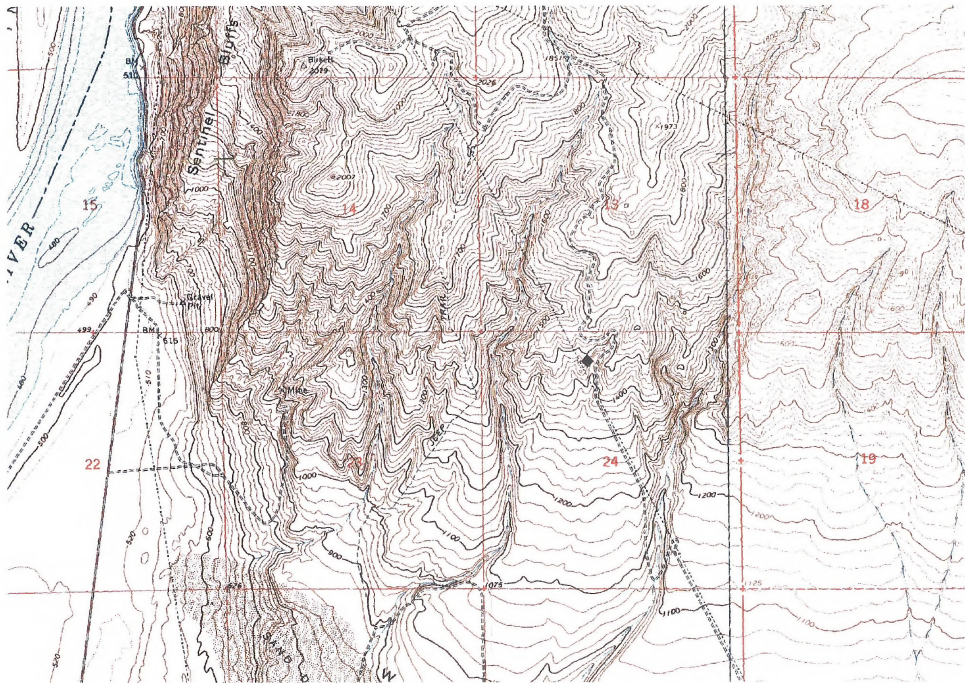


Reptile Sites

▼ Gopher snake





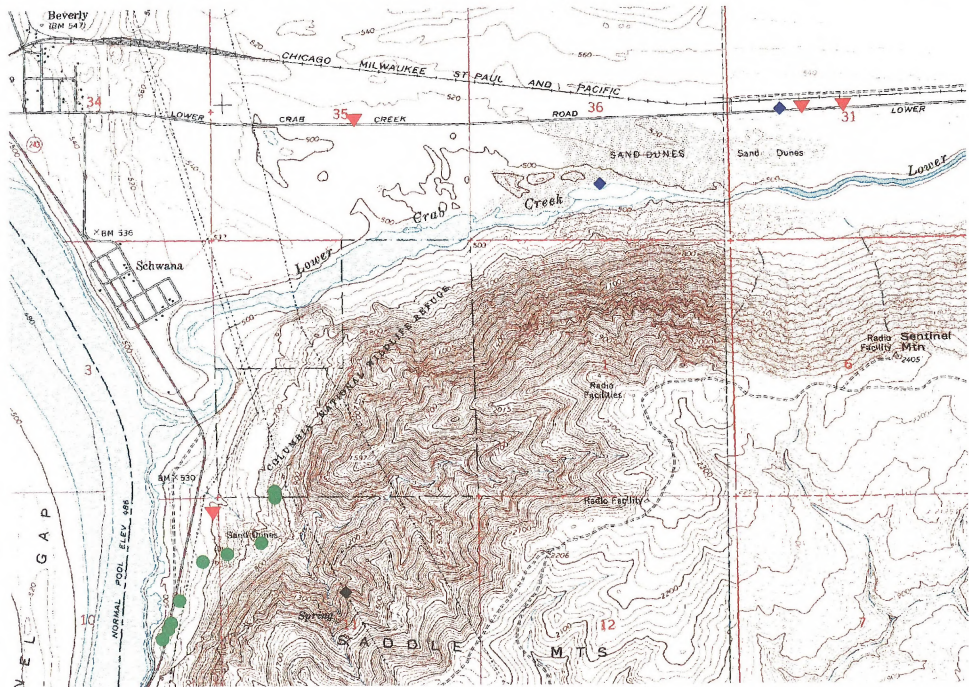


Reptile Sites

◆ Side-blotched lizard





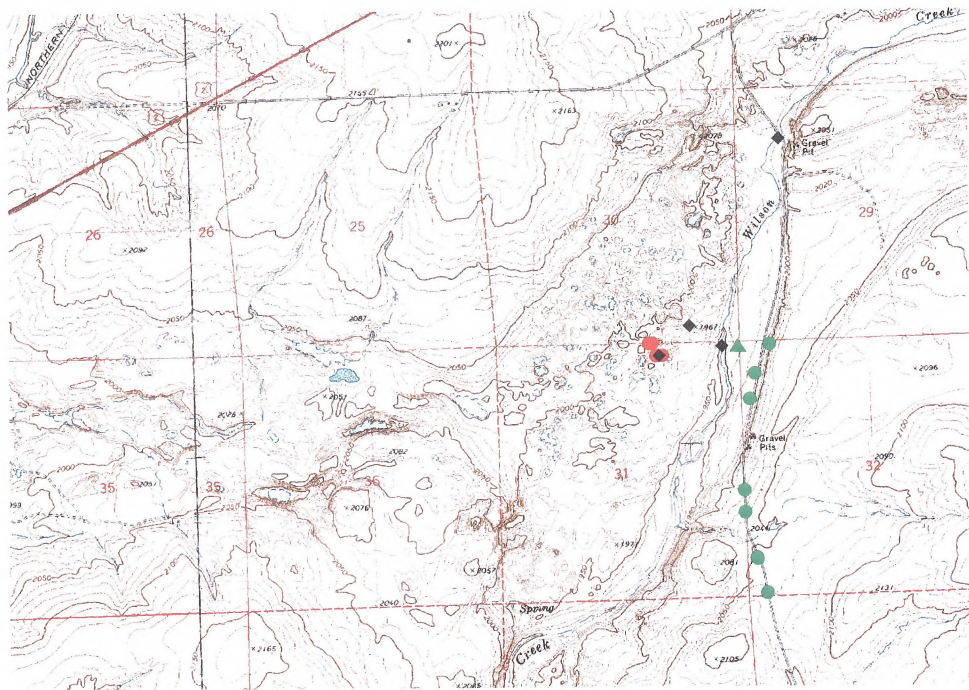


Reptile Sites

- Sagebrush lizard
- ◆ Racer
- ◆ Side-blotched lizard
- ▼ Gopher snake





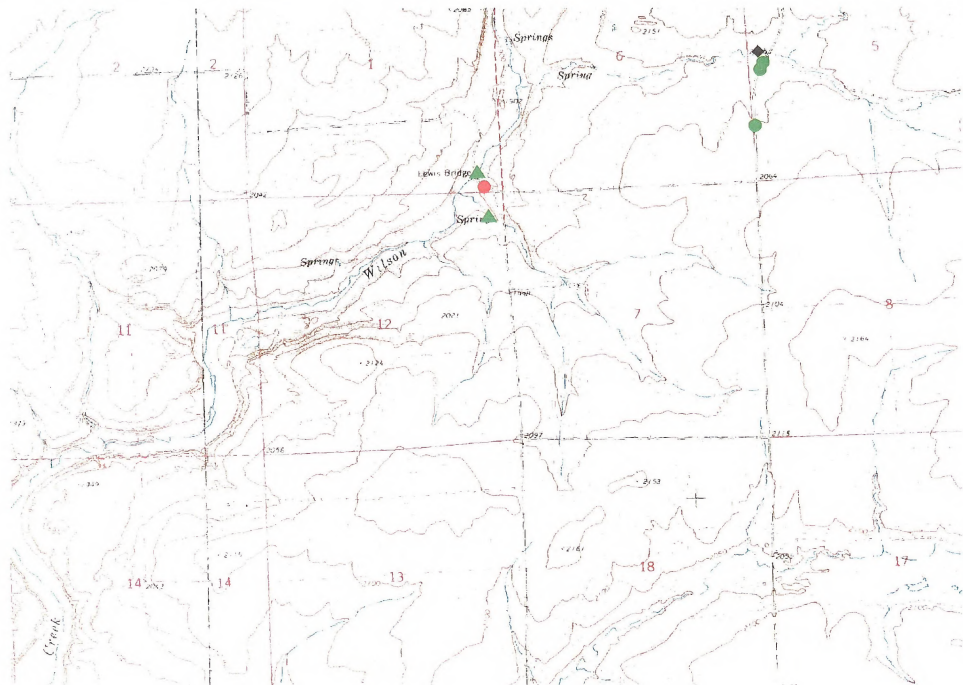


Amphibian Sites

- Tiger salamander
- ◆ Pacific treefrog
- Great Basin spadefoot
- ▲ Long-toed salamander & Pacific treefrog





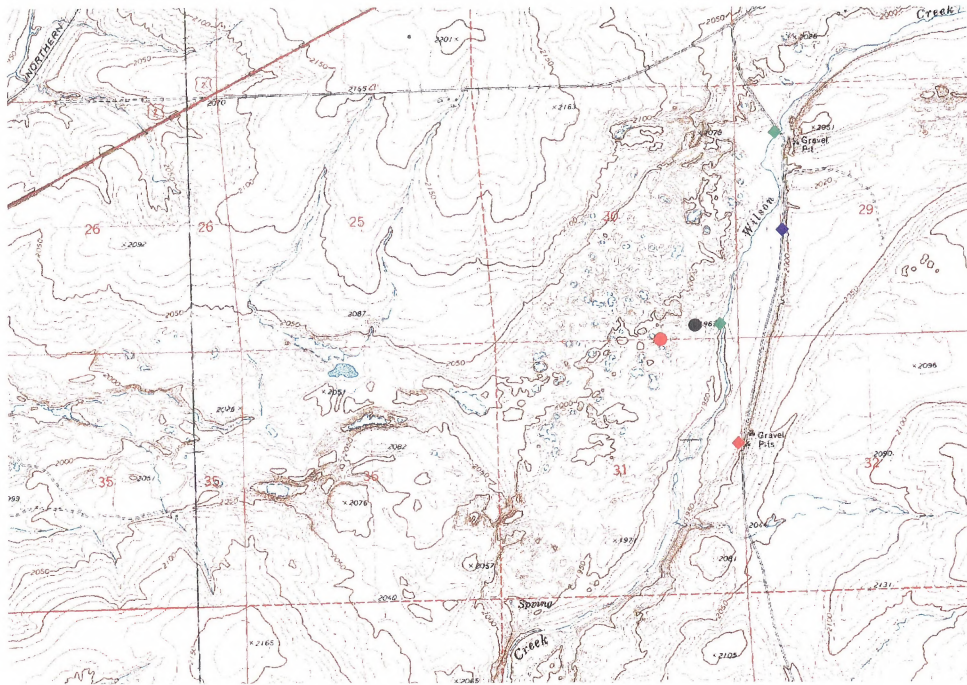


Amphibian Sites

- Long-toed salamander
- Great Basin spadefoot
- ◆ Pacific treefrog
- ▲ Long-toed salamander & Pacific treefrog





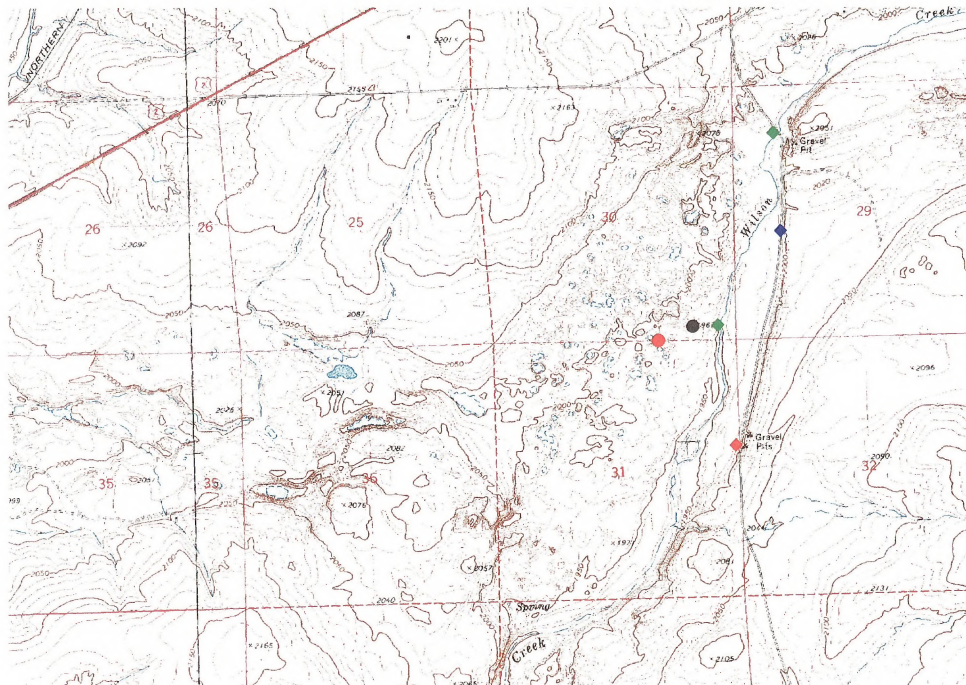


Reptile Sites

- Painted turtle
- Western skink
- ◆ Western terrestrial garter snake
- ◆ Common garter snake
- ◆ Racer





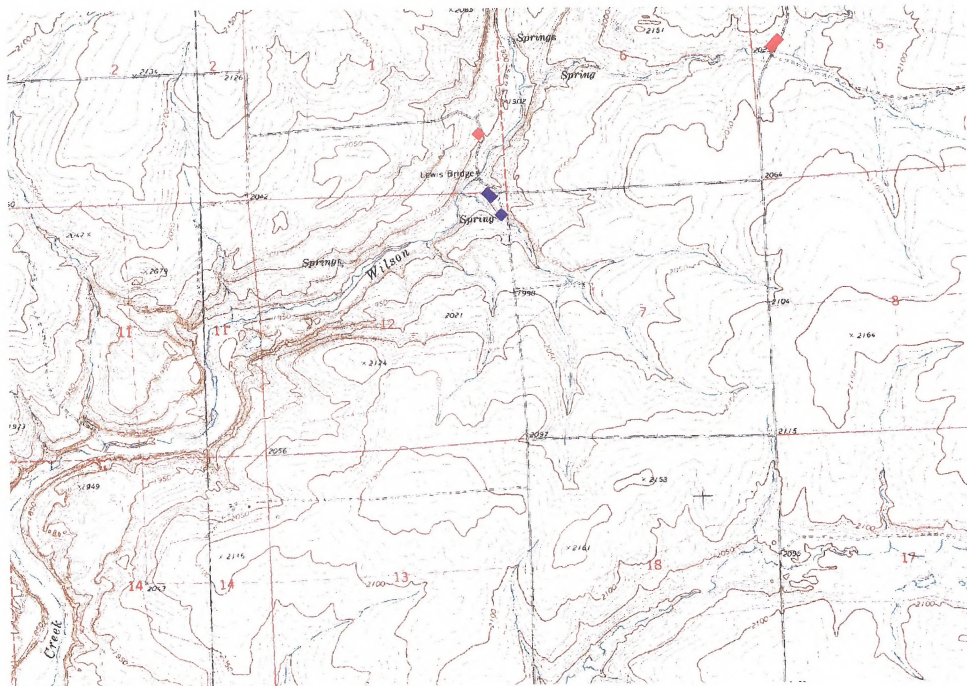


Reptile Sites

- Painted turtle
- ◆ Western terrestrial garter snake
- ◆ Racer
- Western skink
- ◆ Common garter snake





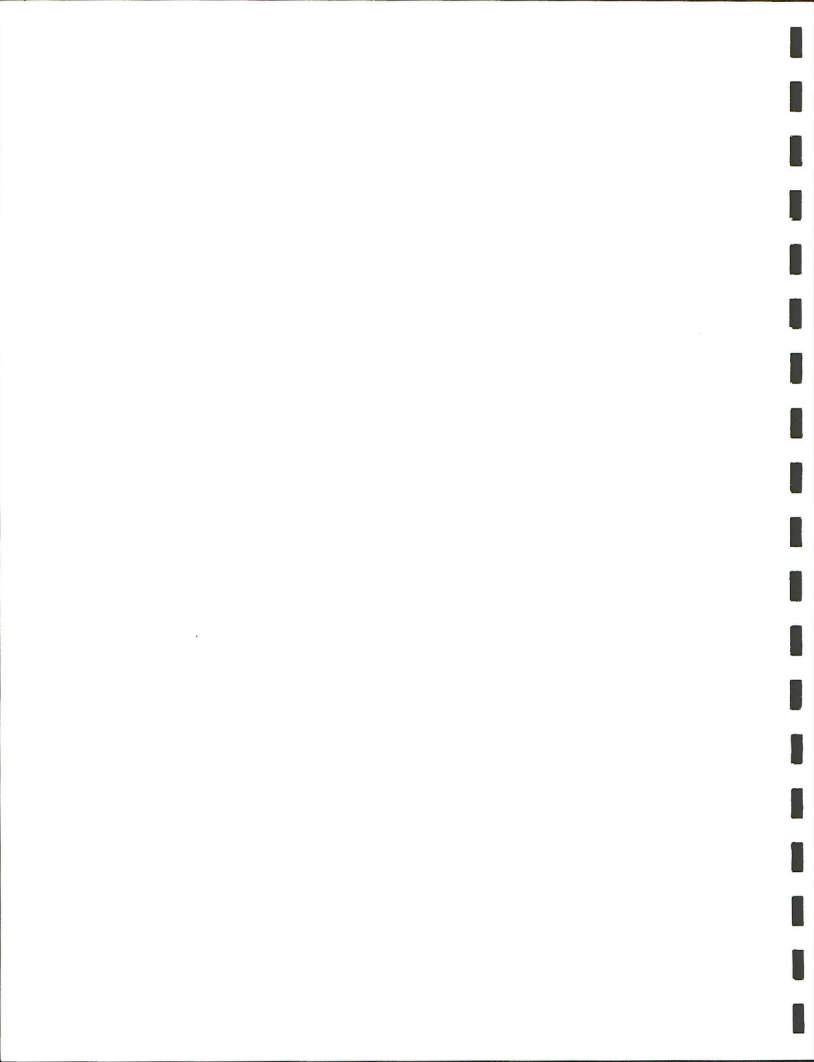


Reptile Sites

◆ Racer

◆ Western terrestrial garter snake





Appendix E. Spreadsheets of Data Collected during the BLM Inventory



Data number	Species code	Date	Location	County	Township, range, section	7.5' USGS topo map	Description	UTM Zone 11 North	UTM Zone 11 East	Survey method	General Habitat	Micro habitat	Time	Qty., Life stage & Sex	Activity / comment
981770	BUBO	22-Apr	Box Canyon Road	Klickitat	T5N R17E S13	Lone Pine Butte	Box Canyon Rd., 3.8 mi. E of Hwy 97	5087560	684460	Road (night)	Ponderosa pine, Oregon oak	gravel road	>2100	1 adult	*
981620	HYRE	22-Apr	Box Canyon Road	Klickitat	T5N R18E S18	Lone Pine Butte	Box Canyon Rd., 4.375 mi. E of Hwy 97, N side of rd.	5087780	685480	VES (day)	Ponderosa pine - oak - pond	pond	1138	13 egg masses & 1 adult	adult - escaping
981780	HYRE	22-Apr	Box Canyon Road	Klickitat	T5N R17E S13	Lone Pine Butte	Box Canyon Rd., 3.95 mi. E of Hwy 97, S of rd.	*	*	Call (night)	Ponderosa pine, Oregon oak	unknown	NR	adult males	chorusing
981780	HYRE	22-Apr	Box Canyon Road	Klickitat	T5N R17E S13	Satus Pass	Box Canyon Rd., 3.3 mi. E of Hwy 97	*	*	Call (night)	Ponderosa pine, Oregon oak	unknown	>2100	adult males	chorusing
981580	SCOC	22-Apr	Box Canyon Road	Klickitat	T5N R18E S18	Lone Pine Butte	Box Canyon Rd., 4.25 mi. E of Hwy 97, N side of rd.	5087700	685140	VES (day)	Ponderosa pine - Oregon oak	under rock	1015	1 adult	sheltering
981590	SCOC	22-Apr	Box Canyon Road	Klickitat	T5N R18E S18	Lone Pine Butte	Box Canyon Rd., 4.35 mi. E of Hwy 97, N side of rd.	5087740	685300	VES (day)	Ponderosa pine - Oregon oak	under rock	1034	2 adults	on rock
981600	SCOC	22-Apr	Box Canyon Road	Klickitat	T5N R18E S18	Lone Pine Butte	Box Canyon Rd., 4.4 mi. E of Hwy 97, N side of rd.	5087760	685340	VES (day)	Ponderosa pine - oak - stream	log on edge of stream	1053	2 adults	basking
981610	SCOC	22-Apr	Box Canyon Road	Klickitat	T5N R18E S18	Lone Pine Butte	Box Canyon Rd., 4.4 mi. E of Hwy 97, N side of rd.	5087740	685380	VES (day)	Ponderosa pine - Oregon oak	stump & under rock	1119	1 juvenile & 1 adult	basking & sheltering (juv.)
98163	SCOC	22-Apr	Box Canyon Road	Klickitat	T5N R18E S18	Lone Pine Butte	Box Canyon Rd., 4.375 mi. E of Hwy 97, N side of rd.	5087760	685480	VES (day)	Ponderosa pine - oak - pond	rocks	1200	4 adults (1 male)	basking & social interaction
981640	SCOC	22-Apr	Box Canyon Road	Klickitat	T5N R18E S18	Lone Pine Butte	Box Canyon Rd., 4.5 mi. E of Hwy 97	5087680	685520	VES (day)	Ponderosa pine- Oregon oak	rocks	1220	2 adults	basking
981650	SCOC	22-Apr	Box Canyon Road	Klickitat	T5N R18E S18	Lone Pine Butte	Box Canyon Rd., 4.7 mi. E of Hwy 97	5087610	685900	VES (day)	Ponderosa pine- Oregon oak	rock	1255	1 adult female	basking
981660	SCOC	22-Apr	Box Canyon Road	Klickitat	T5N R18E S18	Lone Pine Butte	Box Canyon Rd., 4.95 mi. E of Hwy 97, N side of rd.	5087540	686240	VES (day)	Ponderosa pine- Oregon oak	rock	1314	1 juvenile & 1 adult	basking



Data number	Species code	Date	Location	County	Township, range, section	7.5' USGS topo map	Description	UTM Zone 11 North	UTM Zone 11 East	Survey method	General Habitat	Micro habitat	Time	Qty., Life stage & Sex	Activity / comment
98170	AMMA	22-Apr	Box Canyon Road	Klickitat	T5N R18E S18	Lone Pine Butte	Box Canyon Rd., 5.25 mi. E of Hwy 97, S side of rd.	5087340	686620	VES (dusk)	Ponderosa pine - oak - stream	under wood stream edge	2015	1 adult	largest adult I have seen
981710	HYRE	22-Apr	Box Canyon Road	Klickitat	T5N R18E S18	Lone Pine Butte	Box Canyon Rd., 5.25 mi. E of Hwy 97, S side of rd.	5087340	686620	VES (day)	Ponderosa pine - oak - stream	stream	2015	1 adult male	calling
981680	AMMA	22-Apr	Box Canyon Road area	Klickitat	T5N R18E S17	Lone Pine Butte	Box Canyon Rd., 5.3 mi E. of Hwy 97, .025 mi. S of rd.	5087320	686680	VES (day)	Ponderosa pine - oak - pond	in pond	1400	2 larvae	swimming, 17mm TL, balancers
981690	HYRE	22-Apr	Box Canyon Road area	Klickitat	T5N R18E S17	Lone Pine Butte	Box Canyon Rd., 5.3 mi E. of Hwy 97, .025 mi. S of rd.	5087320	686680	VES (day)	Ponderosa pine - oak - pond	in pond & shore	1330	6 adults, >100 larvae, >50 egg m.	2 adults under rocks
981790	THIS	23-Apr	Box Canyon Road area	Klickitat	T5N R17E S13	Satus Pass	Unnamed rd. off Box Canyon Rd., 3.15 mi E of Hwy 97, .35 mi. S of Box Canyon Road	5086960	683460	Road (day)	Ponderosa pine - oak - bitterbrush	dirt road	1237	1 adult female	dead on road
981910	COCO	28-Apr	Douglas Creek	Douglas	T23N R23E S14	Palisades	Slack Canyon Rd., .1 mi. SE of Mohr Canyon	5263740	281340	VES (day)	shrub - steppe - grassy area	gravel road	1249	1 adult	escaping
981930	CRVI	28-Apr	Douglas Creek	Douglas	T23N R23E S14	Palisades	Mohr Canyon, .2 mi W of Slack Canyon Rd.	5263820	281600	Road (day)	shrub - steppe - stream	gravel road	1358	1 adult	basking
981830	HYRE	27-Apr	Douglas Creek	Douglas	T23N R23E S11	Palisades	Slack Canyon Rd., .3 mi. N of Mohr Canyon, where creek crosses rd.	5264420	280840	call (night)	riparian - creek - shrub step.	unknown	2056	>5 adult males	chorusing
98190	HYRE	28-Apr	Douglas Creek	Douglas	T23N R23E S14	Palisades	Slack Canyon Rd., .15 mi. SE of Mohr Canyon, edge of creek.	5263620	281320	VES (day)	shrub-steppe - creek	edge of creek	1220	1 adult	basking
981920	PICA	28-Apr	Douglas Creek	Douglas	T23N R23E S14	Palisades	Slack Canyon Rd., .2 mi. SE of Mohr Canyon	5263600	281420	VES (day)	shrub - steppe - grassy area	gravel road	1305	1 adult	dead on road (flat, crusty)
981810	THEL	27-Apr	Douglas Creek	Douglas	T23N R23E S14	Palisades	Slack Canyon Rd., .65 mi. SE of Mohr Canyon, shore of Douglas Creek	5263040	281780	VES (day)	Creek - shrub-steppe	creek edge	1821	1 juvenile	moving from water onto shore



Data number	Species code	Date	Location	County	Township, range, section	7.5' USGS topo map	Description	UTM Zone 11 North	UTM Zone 11 East	Survey method	General Habitat	Micro habitat	Time	Qty., Life stage & Sex	Activity / comment
983600	HYRE	17-Jun	Douglas Creek area	Douglas	T23N R23E S14	Palisades	cattle tank, Mohr Canyon, .05 mi. W of Douglas Creek	5263920	281120	VES (day)	shrub-steppe - creek	cattle water tank	2010	>20 tadpoles	*
983610	THEL	18-Jun	Douglas Creek area	Douglas	T23N R23E S14	Palisades	Slack Canyon Rd., ~.3 mi. SE of Mohr Canyon, E side of Douglas Creek	5263500	281510	VES (day)	shrub-steppe - creek	slow pool on edge of creek	1505	1 adult	escaping
981850	AMMA	26-Apr	Douglas Creek area	Douglas	T23N R23E T14	Palisades	Mohr Canyon, S hillside uphill from Slack Canyon Rd.	5263860	281320	VES (day)	shrub-steppe - talus/rocky	under rock	1107	1 adult	sheltering
981950	AMMA	28-Apr	Douglas Creek area	Douglas	T23N R23E S15	Palisades	Follow stream up E side of canyon 1.45 mi. from Slack Canyon Rd.	5262860	279300	VES (day)	shrub - steppe - pond	pond	1430	>50 larvae (balancers)	no maps post 1965 - location ?
981890	COCO	28-Apr	Douglas Creek area	Douglas	T23N R23E S14	Palisades	Slack Canyon Rd., .15 mi. SE of Mohr Canyon, .025 mi. SW of rd.	5263620	281360	VES (day)	shrub - steppe - grassy area	down wood (tree trunk)	1226	2 adults	basking/ escaping
981870	CRVI	28-Apr	Douglas Creek area	Douglas	T23N R23E T14	Palisades	Slack Canyon Rd., .15 mi SE of Mohr canyon, .1 mi. uphill (E)	5263760	281500	VES (day)	shrub-steppe - talus/bunchgrass	edge of talus bunchgrass	1148	2 adult	basking
981940	CRVI	28-Apr	Douglas Creek area	Douglas	T23N R23E S15	Palisades	Follow stream up E side of canyon 1.35 mi. from Slack Canyon Rd.	5263340	279320	Road (day)	shrub - steppe - stream	gravel road	1406	1 adult	rattled, could hear in truck
981960	CRVI	28-Apr	Douglas Creek area	Douglas	T23N R23E S16	Palisades	(on flats near cattle pond)	*	*	VES (day)	shrub - steppe - pond	rock - veg edge	1510	1 adult	*
981820	HYRE	27-Apr	Douglas Creek area	Douglas	T23N R23E S11	Palisades	Slack Canyon Rd., .55 mi. NW of Mohr Canyon, in stream E side of rd.	5264560	280740	VES & call (night)	basalt stream - shrub-step.	eggs - rock (edge) & t. mustard	2000	20 egg, 1 female, 6 males	chorusing males
981860	HYRE	28-Apr	Douglas Creek area	Douglas	T23N R23E T14	Palisades	Mohr Canyon, .05 mi uphill from Slack Canyon Rd. (S edge of canyon)	5263860	281360	VES (day)	shrub-steppe - talus/rocky	on surface	1118	1 adult	escaping
981840	PICA	28-Apr	Douglas Creek area	Douglas	T23N R23E T14	Palisades	Slack Canyon Rd., .15 mi. SE of Mohr Canyon, W side of road	5263680	281340	VES (day)	shrub-steppe - grassy area	dead vegetation	1040	1 adult	basking
981970	PICA	28-Apr	Douglas Creek area	Douglas	T23N R23E S14	Palisades	Slack Canyon Rd., just S of Mohr Canyon	5263860	281300	Road (day)	shrub-steppe	gravel road	1611	1 adult	basking



Data number	Species code	Date	Location	County	Township, range, section	7.5' USGS topo map	Description	UTM Zone 11 North	UTM Zone 11 East	Survey method	General Habitat	Micro habitat	Time	Qty., Life stage & Sex	Activity / comment
981980	PICA	28-Apr	Douglas Creek area	Douglas	T23N R23E S14	Palisades	Slack Canyon Rd., .3 mi. SE of Mohr Canyon	5263520	281540	Road (day)	Shrub - steppe - talus	gravel road	1643	1 adult	on road (shade)
981990	PICA	28-Apr	Douglas Creek area	Douglas	T23N R23E S14	Palisades	Slack Canyon Rd., .1 mi. SE of Pegg Canyon	5261900	282860	Road (day)	Sagebrush - cheatgrass	gravel road	1722	1 adult	on road, completely extended
983940	SCOC	09-Jul	Juniper Dunes	Franklin	T10N R31E S2	Levey SW	Juniper Dunes, west entrance, .2 mi. NE of pipeline-powerline crossing	5136880	353840	VES (day)	dune - shrub-steppe	sand & herbaceous plants	1020	1 adult	escaping
983950	SCOC	09-Jul	Juniper Dunes	Franklin	T10N R31E S10	Levey SW	Juniper Dunes, west entrance	5135420	353080	VES (day)	dune - shrub-steppe	sand & rabbitbrush	0813	1 adult male	basking
983960	SCOC	09-Jul	Juniper Dunes	Franklin	T10N R31E S10	Levey SW	Juniper Dunes, west entrance	5135320	353020	VES (day)	dune - shrub-steppe	sand & rabbitbrush	0823	1 adult female	basking
983910	PICA	08-Jul	Juniper Dunes area	Franklin	T11N R32E S25	Levey NE	Pasco-Kahlotus Hwy., 2.45 mi. SW of Snake Rd.	5141200	365800	Road (night)	agriculture - shrub-steppe	paved road	2205	1 juvenile	*
983920	SCIN	08-Jul	Juniper Dunes area	Franklin	T10N R32E S3	Levey SE	Pasco-Kahlotus Hwy., 5.85 mi. SW of Snake Rd.	5136800	362460	Road (night)	agriculture - shrub-steppe	paved road	2218	1 adult	foraging? (ag. Fields both sides)
983930	SCIN	08-Jul	Juniper Dunes area	Franklin	T10N R31E S21	Levey SW	pond, Peterson Rd., 4.0 mi. W of Pasco-Kahlotus Hwy, ~.1 mi N of rd.	5133020	350440	call (night)	agriculture - shrub-steppe	irrigation pond	2223	adult males	chourusing
984260	SCGR	21-Aug	Juniper Dunes	Franklin	T10N R31E S20	Levey SW	Juniper Dunes, ~.2 mi. SW of W entrance	5133620	349620	VES (day)	stabilized sand dune	under Russian thistle	1131	1 adult	basking
984270	SCGR	21-Aug	Juniper Dunes	Franklin	T10N R31E S16	Levey SW	Juniper Dunes, ~.2 mi. SW of W entrance	5133600	349540	VES (day)	stabilized sand dune	edge of green rabbit brush	1314	1 adult female	escaping
984271	SCGR	21-Aug	Juniper Dunes	Franklin	T10N R31E S16	Levey SW	Juniper Dunes, dune .35 mi E of W entrance & .1 mi. N of rd.	5134040	353500	VES (day)	stabilized sand dune	edge of green rabbit brush	1320	1 adult	escaping
984280	SCGR	21-Aug	Juniper Dunes	Franklin	T10N R31E S14	Levey SW	Juniper Dunes, .4 mi. E of W entrance and .1 mi N	5134040	350070	VES (day)	stabilized sand dune	edge of veg. & Russian thistle	1526	2 adults	moving in veg. & escaping



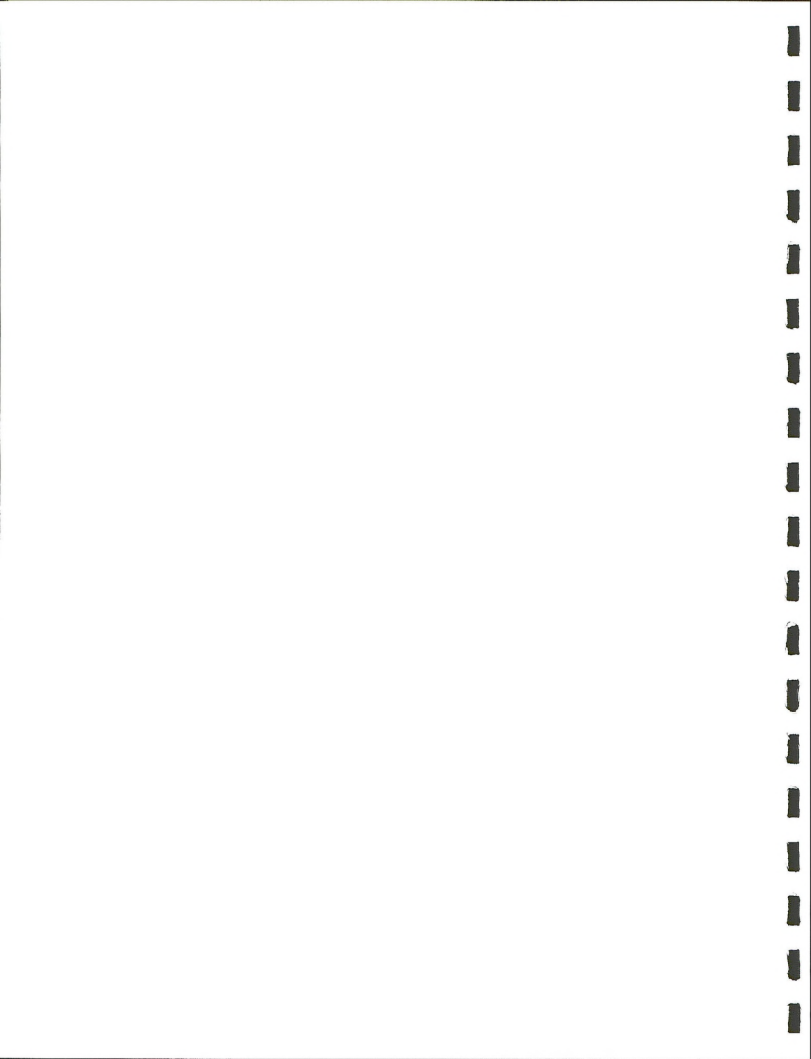
Data number	Species code	Date	Location	County	Township, range, section	7.5' USGS topo map	Description	UTM Zone 11 North	UTM Zone 11 East	Survey method	General Habitat	Micro habitat	Time	Qty., Life stage & Sex	Activity / comment
983872	BUWO	07-Jul	Juniper Dunes	Franklin	T10N R31E S20	Levey SW	Eltopia Branch Irrigation Canal, wetland at base of spillway	5133480	348950	call & VES (night)	irrigation - shrub-steppe	grass & cottonwood	*	>20 adults	foraging
983873	BUWO	07-Jul	Juniper Dunes	Franklin	T10N R31E S20	Levey SW	Eltopia Branch Irrigation Canal, wetland at base of spillway	5133520	348800	call & VES (night)	irrigation - shrub-steppe	grass & cottonwood	*	1 adult	foraging
983874	BUWO	07-Jul	Juniper Dunes	Franklin	T10N R31E S20	Levey SW	Eltopia Branch Irrigation Canal, wetland at base of spillway	5133480	348500	call & VES (night)	irrigation - shrub-steppe	grass & cottonwood	*	calling males	foraging
983871	SCIN	07-Jul	Juniper Dunes	Franklin	T10N R31E S20	Levey SW	Eltopia Branch Irrigation Canal, wetland at base of spillway	5133480	348500	call (night)	irrigation - shrub-steppe	irrigation pond-wetland	dark	adult males	chorusing
983880	SCOC	08-Jul	Juniper Dunes	Franklin	T10N R31E S12	Levey SW	Juniper Dunes, approx. .4 mi. E of 4WD road	*	*	VES (day)	dune - shrub-steppe	dead sagebrush	1033	2 adult females	basking
983890	SCOC	08-Jul	Juniper Dunes	Franklin	T10N R31E S12	Levey SW	Juniper Dunes, approx. .4 mi. E of 4WD road	*	*	VES (day)	dune - shrub-steppe	dead sagebrush	1041	1 adult	basking
983900	SCOC	08-Jul	Juniper Dunes	Franklin	T11N R32E S20	Levey NE	Juniper Dunes, north entrance off of Joy Rd.	5142640	359880	VES (day)	dune - shrub-steppe	on sand, under rabbitbrush	1944	1 adult female	basking
983040	AMTI	26-May	Juniper Dunes area	Franklin	T10N R31E S20	Levey SW	Peterson Rd. area, Eltopia Branch Canal wetland	5133460	348680	VES & dipnet (day)	irrigation pond - shrub-step.	irrigation created pond	1100	1 larvae	~ 3 inches TL
983030	BUWO	26-May	Juniper Dunes area	Franklin	T10N R31E S20	Levey SW	Peterson Rd. area, Eltopia Branch Canal wetland	5133460	348680	VES & dipnet (day)	irrigation pond - shrub-step.	irrigation created pond	1045	>20 tadpoles	collected (died)
983020	SCIN	26-May	Juniper Dunes area	Franklin	T10N R31E S20	Levey SW	Peterson Rd. area, Eltopia Branch Canal wetland	5133460	348680	VES & dipnet (day)	irrigation pond - shrub-step.	irrigation created pond	1045	>20 tadpoles	*
983050	SCIN	26-May	Juniper Dunes area	Franklin	T10N R31E S20	Levey SW	Peterson Rd., .6 mi. down powerline rd., .1 mi SW of rd.	5133320	348840	Call (night)	irrigation pond - shrub-step.	irrigation created wetland	2110	>10 adult males	chorusing
983080	SCIN	26-May	Juniper Dunes area	Franklin	T9N R31E S1	Levey SE	Pasco-Kohlottus Rd., 4.05 mi. E of Peterson Rd.	5127120	356180	Road (night)	agriculture - (shrub-steppe)	paved road	2223	1 adult	foraging?



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983070	SCIN	26-May	Juniper Dunes area	Franklin	T9N R31E S8	Levey SW	Pasco-Kohlotus Rd., .05 mi. E of Martindale Rd.	5126140	348160	Road (night)	agriculture - (shrub-steppe)	paved road	2306	1 adult	foraging?
984170	SCIN	20-Aug	Juniper Dunes area	Franklin	T9N R31E S3	Levey SW	Pasco-Kohlotus Hwy, 1.8 mi. N of Peterson Rd.	5127210	352580	road (night)	shrub-steppe & corn field	paved road	2227	1 adult	*
984180	SCIN	20-Aug	Juniper Dunes area	Franklin	T9N R31E S2	Levey SW	Pasco-Kohlotus Hwy, 2.3 mi. N of Peterson Rd.	5127190	353400	road (night)	empty field & mustard, this site field	paved road	2233	1 juvenile	can hear sprinklers
984190	SCIN	20-Aug	Juniper Dunes area	Franklin	T9N R31E S1	Levey SW	Pasco-Kohlotus Hwy., 3.2 mi. N of Peterson Rd.	5127140	354800	road (night)	corn field & fallow field	paved road	2243	1 juvenile	*
984200	SCIN	20-Aug	Juniper Dunes area	Franklin	T9N R31E S1	Levey SW	Pasco-Kohlotus Rd., 3.25 mi. N of Peterson Rd.	5127140	454900	road (night)	*	paved road	2247	*	*
984201	SCIN	20-Aug	Juniper Dunes area	Franklin	T9N R32E S6	Levey SE	Pasco-Kohlotus Rd., 5.45 mi. N of Peterson Rd.	5128360	357800	road (night)	corn field & ag. Field	paved road	2256	1 adult	*
984210	SCIN	20-Aug	Juniper Dunes area	Franklin	T10N R32E S31	Levey SE	Pasco-Kohlotus Rd., 5.65 mi. N of Peterson Rd.	5128680	357800	road (night)	corn, fallow & burnt field	paved road	2300	1 juvenile	*
984220	SCIN	20-Aug	Juniper Dunes area	Franklin	T9N R31E S1	Levey SE	Pasco-Kohlotus Rd., 3.0 mi. S of Big Flat Lake	5128680	357800	road (night)	corn, mint, fallow field	paved road	2310	2 adult	*
984230	SCIN	20-Aug	Juniper Dunes area	Franklin	T9N R31E S1	Levey SE	Pasco-Kohlotus Rd., 3.5 mi. S of Big Flat Lake	5127120	355140	road (night)	corn & empty (burnt) field	paved road	2318	1 juvenile	*
984240	SCIN	20-Aug	Juniper Dunes area	Franklin	T9N R31E S3	Levey SW	Pasco-Kohlotus Rd., 5.05 mi. S of Big Flat Lake	5127220	352550	road (night)	corn & fallow field	paved road	2325	1 adult	*
984250	SCIN	20-Aug	Juniper Dunes area	Franklin	T9N R31E S3	Levey SW	Pasco-Kohlotus Rd., 5.5 mi. S of Big Flat Lake	5127230	352080	road (night)	*	paved road	2327	*	*
98870	AMMA	01-Apr	Lake Creek Falls	Lincoln	*	*	Lake Creek Falls, Rock Ranch, Twin Lakes Area	*	*	VES (day) (incidental)	pond	fence post (downed)	1815	1 juvenile & 5 adults	sheltering



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98871	HYRE	01-Apr	Lake Creek Falls	Lincoln	*	*	Lake Creek Falls, Rock Ranch, Twin Lakes Area	*	*	VES (day) (incidental)	pond	unknown	1815	many adult males	chorusing
98760	AMMA	01-Apr	Lakeview Ranch	Lincoln	T22N R32E S11	Pacific Lakes	Lakeview Ranch - trash pile behind barns	5252360	368740	VES (day)	grassland - lake	fence post (downed)	1100	1 adult	sheltering
98780	AMMA	01-Apr	Lakeview Ranch	Lincoln	T22N R32E S11 1/4 SE 1/4 1/4 NE	Pacific Lakes	Lakeview Ranch, ~.2 mi. W of ranch & road	*	*	VES (day)	grassland - lake	fence post (downed)	NR	1 adult	sheltering
98790	AMMA	01-Apr	Lakeview Ranch	Lincoln	T22N R32E S11	Pacific Lakes	Lakeview Ranch - spring box, .25 mi. W of rd., .25 mi. NW of ranch	5252520	368400	VES (day)	grassland - lake	spring box	NR	> 100 egg masses & larvae	developing & swimming
98770	EUSK	01-Apr	Lakeview Ranch	Lincoln	T22N R32E S11 1/4 SE 1/4 1/4 NE	Pacific Lakes	Lakeview Ranch, ~.2 mi. W of ranch & road	*	*	VES (day)	grassland - lake	fence post (downed)	1115	1 adult	sheltering
98800	HYRE	01-Apr	Lakeview Ranch	Lincoln	T22N R32E S12 1/4 SW 1/4 1/4 NW	Pacific Lakes	Lakeview Ranch, W side of road	*	*	call (day)	grassland - lake	unknown	1230	1 adult male	calling
98750	EUSK	01-Apr	Lakeview Ranch area	Lincoln	T22N R32E S12	Pacific Lakes	Lakeview Ranch, .2 mi. S of Pacific Lake boat launch, .05 mi. W of rd.	5252060	368840	VES (day)	channeled scablands - ponds	unknown	1025	1 adult	sheltering
98740	HYRE	01-Apr	Lakeview Ranch area	Lincoln	T22N R32E S12	Pacific Lakes	Lakeview Ranch, .2 mi. S of Pacific Lake boat launch, .05 mi. W of rd.	5252060	368840	VES & call (day)	channeled scablands - ponds	unknown	1015	1 adult male	calling
98148	BUBO	20-Apr	Rock Creek	Klickitat	T15N R18E S20	Lone Pine Butte	off Box Canyon Rd., ~5.6 mi. E of Hwy 97, and S .25 mi.	5086760	687160	VES (day)	Ponderosa pine - Oregon oak	between ground and rock	1420	1 adult	it wiggled
981572	CHPI	21-Apr	Rock Creek	Klickitat	T4N R18E S3	Luna Gulch	Rock Creek, ~1 mi. N of Goldendale-Bickleton Hwy	5080740	691420	VES (day)	Ponderosa pine - oak - creek	pond	*	~ 3 juv.	Introduced by land owner
981570	COCO	21-Apr	Rock Creek	Klickitat	T5N R18E S3	Luna Gulch	Rock Creek, 1.35 mi. N. of Bickleton Hwy, E. edge of creek	5081422	691385	VES (day)	Ponderosa pine - oak - creek	near creek edge	1715	1 adult	escaping (Hedges ID)
981510	HYRE	20-Apr	Rock Creek	Klickitat	T15N R18E S17	Lone Pine Butte	off Box Canyon Rd., approx. 6.3 mi. E of Hwy 97	5087660	687880	call (day)	Ponderosa pine - oak - wetland	unknown	1716	1 adult male	calling



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981520	HYRE	20-Apr	Rock Creek	Klickitat	T15N R18E S17	Lone Pine Butte	off Box Canyon Rd., approx. 6.3 mi. E of Hwy 97	5087660	687880	call (night)	Ponderosa pine - oak - wetland	unknown	2154	> 20 adult males	chorusing
981571	HYRE	21-Apr	Rock Creek	Klickitat	T4N R18E S3	Luna Gulch	Rock Creek, ~1 mi. N of Goldendale-Bickleton Hwy	5080740	691420	VES (day)	Ponderosa pine - oak - creek	pond	*	>20 egg masses	*
981560	HYRE	21-Apr	Rock Creek	Klickitat	T5N R18E S3	Luna Gulch	Rock Creek, 1.35 mi. N. of Bickleton Hwy, E. edge of creek	5081422	691385	call (day)	Ponderosa pine - oak - creek	near creek edge	1717	> 3 adult males	calling
981470	SCOC	20-Apr	Rock Creek	Klickitat	T15N R18E S17	Lone Pine Butte	off Box Canyon Rd., ~5.6 mi. E of Hwy 97, and S .25 mi.	5086820	687140E	VES (day)	Ponderosa pine - Oregon oak	woody debris & ground	1400	1 juvenile & 1 adult	basking & escaping
981490	SCOC	20-Apr	Rock Creek	Klickitat	T15N R18E S20	Lone Pine Butte	off Box Canyon Rd., ~5.6 mi. E of Hwy 97, and S .25 mi.	5086500	687620	VES (day)	Ponderosa pine - Oregon oak	on logs	1600	1 juvenile & 7 adults	basking
981500	SCOC	20-Apr	Rock Creek	Klickitat	T15N R18E S20	Lone Pine Butte	off Box Canyon Rd., approx. 5.6 mi. E of Hwy 97, SE .6 mi. to stream	5086520	687820	VES (day)	Ponderosa pine - oak - stream	on rock in stream	1620	1 adult	*
981530	SCOC	21-Apr	Rock Creek	Klickitat	T4N R18E S3	Luna Gulch	Rock Creek, 1.1 mi. N. of Bickleton Hwy, E. edge of creek	5080974	691426	VES (day)	Ponderosa pine - oak - creek	logs	1005	2 adults (1 male)	basking (tick)
981540	SCOC	21-Apr	Rock Creek	Klickitat	T4N R18E S3	Luna Gulch	Rock Creek, 1.45 mi. N. of Bickleton Hwy, E. edge of creek	5081573	691358	VES (day)	Ponderosa pine - oak - creek	logs	1048	1 adult	basking
981550	SCOC	21-Apr	Rock Creek	Klickitat	T5N R18E S34	Luna Gulch	Rock Creek, 2.35 mi. N. of Bickleton Hwy, E. edge of creek	5082917	690984	VES (day)	Ponderosa pine - oak - creek	leaf litter	1303	1 adult	escaping
981730	SCOC	22-Apr	Rock Creek	Klickitat	T5NR18E S20	Lone Pine Butte	Box Canyon Rd., 5.5 mi. E of Hwy 97, .35 mi S of rd.	5086620	686840	VES (day)	grass, forbes & rocks	on rock	1744	1 adult male	basking
981740	SCOC	22-Apr	Rock Creek	Klickitat	T5NR18E S20	Lone Pine Butte	Box Canyon Rd., 5.5 mi. E of Hwy 97, .275 mi S of rd.	5086720	686880	VES (day)	grass, forbes & rocks	on rock	1814	1 adult male	basking (ticks - ears & neck)
981750	SCOC	22-Apr	Rock Creek	Klickitat	T5NR18E S20	Lone Pine Butte	Box Canyon Rd., 5.5 mi. E of Hwy 97, .25 mi S of rd.	5086780	686860	VES (day)	grass, forbes & rocks	on rock	1835	1 adult female	basking



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983310	BUBO	09-Jun	Rock Creek	Klickitat	T4N R18E S3	Luna Gulch	Rock Creek, 1.625 mi. N of Bickleton Hwy, E side of creek	5081720	69130	VES (day)	Ponderosa pine - oak - creek	open talus slope	1604	1 juvenile	crossing talus, later basking
983250	ELMU	09-Jun	Rock Creek	Klickitat	T4N R18E S10	Luna Gulch	Rock Creek Rd., .5 mi. N of Bickleton Hwy	5080040	691640	VES (day)	Ponderosa pine - oak - talus	oak leaf litter	1110	1 juvenile	escaping / captured
983270	ELMU	09-Jun	Rock Creek	Klickitat	T4N R18E S3	Luna Gulch	Rock Creek, 1.0 mi. N of Bickleton Hwy, E side of creek	5080880	691440	VES (day)	Ponderosa pine - oak - creek	ponderosa pine	1322	1 adult	climbing trunk (1 ft. up)
983290	ELMU	09-Jun	Rock Creek	Klickitat	T4N R18E S3	Luna Gulch	Rock Creek, 1.5 mi. N of Bickleton Hwy, E side of creek	5081640	691340	VES (day)	Ponderosa pine - oak - creek	oak grove, leaf litter	1511	1 adult	escaping
983330	ELMU	09-Jun	Rock Creek	Klickitat	T4N R18E S3	Luna Gulch	Rock Creek, ~.8 mi. N of Bickleton Hwy, E side of creek	5080520	691520	VES (day)	Ponderosa pine - oak - creek	rocks on edge of creek	1745	1 juvenile	basking, escaped into water
983260	HYRE	09-Jun	Rock Creek	Klickitat	T4N R18E S10	Luna Gulch	Rock Creek Rd., .65 mi. N of Bickleton Hwy	5080240	691600	VES (day)	Ponderosa pine - oak - horsetail	dirt road	1120	1 adult	crossing road
983280	HYRE	09-Jun	Rock Creek	Klickitat	T4N R18E S3	Luna Gulch	Rock Creek, 1.35 mi. N of Bickleton Hwy, E side of creek	5081422	691385	VES (day)	Ponderosa pine - oak - creek	side channel of creek	1349	> 20 egg masses & 10 tadpoles	*
983300	HYRE	09-Jun	Rock Creek	Klickitat	T4N R18E S3	Luna Gulch	Rock Creek, 1.625 mi. N of Bickleton Hwy, E side of creek	5081700	690320	VES (day)	Ponderosa pine - oak - creek	forested talus slope - moss	1543	1 adult female	*
983230	PICA	09-Jun	Rock Creek	Klickitat	T4N R18E S3	Luna Gulch	Rock Creek, 1.0 mi. N of Bickleton Hwy, E side of creek	5080700	691500	VES (day)	Ponderosa pine - oak - creek	rocky area	1258	1 adult	escaping
983240	SCOC	09-Jun	Rock Creek	Klickitat	T4N R18E S10	Luna Gulch	Rock Creek Rd., .4 mi. N of Bickleton Hwy	5079820	691720	VES (day)	Ponderosa pine - oak - grass	under ponderosa pine bark	1025	1 adult	sheltering
983320	SCOC	09-Jun	Rock Creek	Klickitat	T4N R18E S3	Luna Gulch	Rock Creek, 1.0 mi. N of Bickleton Hwy, E side of creek	5080880	691480	VES (day)	Ponderosa pine - oak - creek	on rock & grassy area	1730	1 adult	basking
98340	PICA	09-Jun	Rock Creek area	Klickitat	T4N R17E S10	Luna Butte	Bickleton Hwy, 7.5 mi E of Hwy 97	5078940	682100	Road (day)	Agriculture - ponderosa pine - oak	paved road	1857	1 juvenile	dead on road (fresh) (collected)



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983360	PICA	08-Jun	Rock Creek area	Klickitat	T4N R17E S17	Luna Butte	Bickleton Hwy, 4.8 mi E of Hwy 97	5078100	678040	Road (day)	Agriculture - ponderosa pine - oak	paved road	1910	1 juvenile	dead on road
983350	THEL	09-Jun	Rock Creek area	Klickitat	T4N R17E S16	Luna Butte	Bickleton Hwy, 6 mi E of Hwy 97	5078540	679920	Road (day)	Agriculture - ponderosa pine - oak	paved road	1905	1 juvenile	dead on road (fresh) (collected)
983450	COCO	10-Jun	Rock Creek area	Klickitat	T5N R17E S18	Lone Pine Butte	Box Canyon Rd., 4.6 mi E. of Hwy 97	5087640	685640	Road (day)	Ponderosa pine - oak - rocky areas	gravel road	1602	1 juvenile (still spotted) collected	dead on road (collected)
983460	COCO	10-Jun	Rock Creek area	Klickitat	T5N R17E S18	Lone Pine Butte	Box Canyon Rd., 4.65 mi E. of Hwy 97	5087620	685900	Road (day)	bitterbrush - rabbitbrush - grass	gravel road	1608	1 adult female (collected)	dead on road (collected)
983480	EUSK	11-Jun	Rock Creek area	Klickitat	T5N R18E S20	Lone Pine Butte	NE corner of section 20, follow Bean Brother's Son's fence line	5086340	687960	VES (day)	Ponderosa pine - Oregon oak	under decaying log	1200	1 adult	sheltering
983440	SCOC	10-Jun	Rock Creek area	Klickitat	T5N R18E S18	Lone Pine Butte	Box Canyon Rd., 4.45 mi E. of Hwy 97	5087620	685600	Road (day)	Ponderosa pine - oak - rocky areas	rocky road cut	1557	1 juvenile	basking
983470	SCOC	10-Jun	Rock Creek area	Klickitat	T5N R17E S18	Lone Pine Butte	Box Canyon Rd., 6.175 mi E. of Hwy 97	5087700	687880	Road (day)	cottonwood-pine-willow-creek	under wood	1645	1 juvenile & 1 adult	sheltering
98860	AMMA	01-Apr	Rock Ranch	Lincoln	*	*	Rock Ranch (BLM) property - farm yard near barns (Twin Lakes area)	*	*	VES (day)	water saturated grassy area	boards	1720	6 adults	sheltering
983160	BUBO	08-Jun	Rock Creek area	Klickitat	T5N R17E S13	Lone Pine Butte	Box Canyon Rd., 3.8 mi. E from Hwy 97	5087540	684600	Road (night)	Ponderosa pine - oak - bitterbrush	gravel road	2305	1 adult	foraging
983130	ELMU	08-Jun	Rock Creek area	Klickitat	T5N R18E S20	Lone Pine Butte	follow spring downhill toward rock creek approx. .5 mi.	5086300	687300	VES (day)	rock field - bunchgrass	between rocks	1921	1 adult	escaping - had ticks
983140	ELMU	08-Jun	Rock Creek area	Klickitat	T5N R18E S20	Lone Pine Butte	follow spring downhill toward rock creek approx. .6 mi.	5086220	687260	VES (day)	rock field - bunchgrass	between rocks	2008	1 adult	escaping - had ticks
983100	HYRE	08-Jun	Rock Creek area	Klickitat	T5N R17E S13	Lone Pine Butte	Box Canyon Rd., 3.7 mi. E from Hwy 97	5087580	684280	VES (day)	Ponderosa pine - oak - bitterbrush	in and under rocks	1310	2 adults, 1 was female	escaping



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983110	HYRE	08-Jun	Rock Creek area	Klickitat	T5N R18E S18	Lone Pine Butte	Box Canyon Rd., 5.2 mi. E from Hwy 97 (borrow pit)	5087540	686560	VES (day)	pond - ponderosa pine - oak	rushes, grasses, gravel etc.	1630	> 10 larvae & > 20 froglets	newly metamorph.
983150	HYRE	08-Jun	Rock Creek area	Klickitat	T5N R18E S17	Lone Pine Butte	Box Canyon Rd., 6.3 mi. E from Hwy 97 (wetland)	5087660	687900	Call (night)	wetland - Ponderosa pine - oak	unknown	2220	many males	chorusing
983090	SCOC	08-Jun	Rock Creek area	Klickitat	T5N R17E S13	Lone Pine Butte	Box Canyon Rd., 3.7 mi. E from Hwy 97	5087580	684280	VES (day)	Ponderosa pine - oak - bitterbrush	in and under rocks	1300	3 juveniles & 5 adults	all juv. & 1 adult sheltering
983120	SCOC	08-Jun	Rock Creek area	Klickitat	T5N R18E S20	Lone Pine Butte	follow spring downhill toward rock creek approx. .3 mi.	5086480	687660	VES (day)	Ponderosa pine - oak - bitterbrush	on rock & grassy area	1847	3 adults	basking & escaping
983410	CRVI	10-Jun	Rock Creek	Klickitat	T4N R18E S11	Luna Gulch	Bickleton Rd., .3 mi. uphill from Rock Creek Rd.	5078880	692040	Road (day)	rocky hillside	paved road	1350	1 juvenile	dead on road (fresh) (collected)
983370	EUMU	10-Jun	Rock Creek	Klickitat	T4N R18E S11	Luna Gulch	Rock Creek Rd., .1 mi. S of Bickleton Hwy	5079100	691860	VES (day)	oak - alder-talus - creek	oak leaves (at base of talus)	1143	1 adult	escaping
983380	EUMU	10-Jun	Rock Creek	Klickitat	T4N R18E S14	Luna Gulch	Rock Creek Rd., .5 mi. S of Bickleton Hwy (E side of rd)	5078480	692000	VES (day)	oak - alder-talus - creek	under slab of rock	1204	1 adult	sheltering
983390	HYRE	10-Jun	Rock Creek	Klickitat	T4N R18E S23	Luna Gulch	Rock Creek Rd., 2.4 mi. S of Bickleton Hwy (E side of rd)	5076020	693260	VES (day)	stream-grass - rabbitbrush	in slow moving pool	1249	> 10 egg masses & > 10 tadpoles	round eggs to rear leg dev.
983400	PICA	10-Jun	Rock Creek	Klickitat	T4N R18E S25	Goodnoe Hills	Rock Creek Rd., 3.45 mi. S of Bickleton Hwy (E side of rd)	5075400	694460	Road (day)	grass - rabbitbrush - sumac	dirt road	1319	1 adult	crossing road
983420	PICA	10-Jun	Rock Creek	Klickitat	T5N R18E S35	Luna Gulch	Goldendale Hwy., 4.0 mi. N of Rock Creek Rd.	5082160	692720	Road (day)	bitterbrush - rabbitbrush - grass	paved road	1400	1 juvenile	dead on road (fresh) (collected)
983430	PICA	10-Jun	Rock Creek	Klickitat	T5N R17E S18	Luna Butte	Bickleton Hwy., 5.35 mi. W of Oak Flat Rd.	5078060	676900	Road (day)	NR	paved road	1458	1 juvenile	dead on road (fresh)
984290	COCO	21-Sep	Rock Creek area	Klickitat	T5N R17E S1	Satus Pass	Box Canyon Rd., 2.2 mi. E of Hwy 97	5087440	681580	road (day)	Ponderosa pine w/ grass	paved road	1815	1 adult	dead on road



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984390	ELMU	22-Sep	Rock Creek area	Klickitat	T5N R18E S20	Lone Pine Butte	*	5084980	686300	VES (day)	P.Pine, O. Oak & bitterbrush	base of dead oak tree	1538	1 adult shed skin	*
984450	ELMU	23-Sep	Rock Creek area	Klickitat	T5N R18E S20	Lone Pine Butte	approx. 1 mi. S of spring in NE corner of section, on fence line	5086540	687980	VES (day)	Oregon oak-ponderosa pine	on rock next to oak log	1248	1 small adult	basking
984480	ELMU	23-Sep	Rock Creek area	Klickitat	T5N R18E S20	Lone Pine Butte	*	5086120	687980	VES (day)	Oregon oak-grass understory	in leaf litter under oak clump	1520	1 adult	edge of clearing
984510	ELMU	23-Sep	Rock Creek area	Klickitat	T5N R18E S35	Luna Gulch	Goldendale Hwy., 4.4 mi. NE from Rock Creek Rd.	5082810	692440	road (day)	Oregon oak-ponderosa pine-bitterbrush	paved road	1734	1 adult	basking?
984520	ELMU	23-Sep	Rock Creek area	Klickitat	T5N R18E S35	Luna Gulch	Goldendale Hwy., 4.6 mi. NE from Rock Creek Rd.	5083100	692500	road (day)	Oregon oak-ponderosa pine-bitterbrush	paved road	1740	1 adult	dead on road (collected)
984530	ELMU	23-Sep	Rock Creek area	Klickitat	T5N R18E S35	Luna Gulch	Goldendale Hwy., 4.7 mi. NE from Rock Creek Rd.	5083240	692580	road (day)	Oregon oak-ponderosa pine-bitterbrush	paved road	1740	1 adult	dead on road (collected)
984550	ELMU	23-Sep	Rock Creek area	Klickitat	T5N R18E S24	Bickleton NW	Goldendale Hwy., 7.2 mi. NE from Rock Creek Rd.	5086640	694700	road (day)	Oregon oak-ponderosa pine-bitterbrush	paved road	1801	1 adult	crossing road
984560	ELMU	23-Sep	Rock Creek area	Klickitat	T5N R18E S24	Bickleton NW	Goldendale Hwy., 7.25 mi. NE from Rock Creek Rd.	5086740	694700	road (day)	Oregon oak-ponderosa pine-bitterbrush	paved road	1824	1 adult	on road
984580	ELMU	23-Sep	Rock Creek area	Klickitat	T4N R18E S14	Luna Gulch	Goldendale Hwy., .95 mi. S of Rock Creek Rd.	5077820	691920	road (day)	canyon-road cut	paved road	1830	1 adult	dead on road
984300	PICA	21-Sep	Rock Creek area	Klickitat	T5N R18E S18	Lone Pine Butte	Box Canyon Rd., 5.05 mi. E of Hwy 97	5087620	686380	road (day)	P.Pine, O. Oak & bitterbrush	gravel road	1839	1 adult	basking on road
984490	PICA	23-Sep	Rock Creek area	Klickitat	T4N R18E S11	Luna Gulch	Goldendale Hwy., 2.0 mi. NE from Rock Creek Rd.	5079090	692710	road (day)	Oregon oak-ponderosa pine-bitterbrush	paved road	1725	1 juvenile	basking



Data number	Species code	Date	Location	County	Township, range, section	7.5' USGS topo map	Description	UTM Zone 11 North	UTM Zone 11 East	Survey method	General Habitat	Micro habitat	Time	Qty., Life stage & Sex	Activity / comment
984500	PICA	23-Sep	Rock Creek area	Klickitat	T4N R18E S2	Luna Gulch	Goldendale Hwy., 3.8 mi. NE from Rock Creek Rd.	5081940	692880	road (day)	Oregon oak-ponderosa pine-bitterbrush	paved road	1730	1 juvenile	dead on road
984540	PICA	23-Sep	Rock Creek area	Klickitat	T5N R18E S24	Bickleton NW	Goldendale Hwy., 7.1 mi. NE from Rock Creek Rd.	5086480	695690	road (day)	Oregon oak-ponderosa pine-bitterbrush	paved road	1758	1 juvenile	dead on road (collected)
984590	PICA	23-Sep	Rock Creek area	Klickitat	T4N R18E S15	Luna Gulch	Goldendale Hwy., 2.3 mi. W of Rock Creek Rd.	5077740	690760	road (day)	pine-bitterbrush-rabbitbrush-grassy area	paved road	>1830	1 juvenile	dead on road
984600	PICA	23-Sep	Rock Creek area	Klickitat	T4N R18E S15	Luna Gulch	Goldendale Hwy., 2.35 mi. W of Rock Creek Rd.	5077740	690680	road (day)	rabbitbrush-grassy area	paved road	1902	1 juvenile	dead on road
984620	PICA	23-Sep	Rock Creek area	Klickitat	T4N R17E S11	Luna Butte	Goldendale Hwy., 8.15 mi. E of Hwy 97	5078840	683320	road (day)	*	paved road	1907	1 juvenile	dead on road (collected)
984630	PICA	23-Sep	Rock Creek area	Klickitat	T4N R17E S11	Luna Butte	Goldendale Hwy., 7.85 mi. E of Hwy 97	5078880	682800	road (day)	Oregon oak-P.pine-grassland	paved road	1911	1 juvenile	dead on road (collected)
984640	PICA	23-Sep	Rock Creek area	Klickitat	T4N R17E S11	Luna Butte	Goldendale Hwy., 7.6 mi. E of Hwy 97	5078900	682400	road (day)	Oregon oak-P.pine-grassland	paved road	1914	1 juvenile	dead on road
984650	PICA	23-Sep	Rock Creek area	Klickitat	T4N R17E S10	Luna Butte	Goldendale Hwy., 7.6 mi. E of Hwy 97	5078800	681160	road (day)	Oregon oak-P.pine-grassland	paved road	1916	1 juvenile	dead on road
984310	SCOC	22-Sep	Rock Creek area	Klickitat	T5N R17E S13	Satus Pass	Box Canyon Rd., 3.65 mi. E of Hwy 97	5087560	684160	VES (day)	P.Pine, O. Oak & bitterbrush	under rock	0655	1 juvenile	sheltering
984320	SCOC	22-Sep	Rock Creek area	Klickitat	T5N R17E S13	Lone Pine Butte	Box Canyon Rd., 3.9 mi. E of Hwy 97	5087520	684600	VES (day)	P.Pine, O. Oak & bitterbrush	edge of bitterbrush	1054	1 adult	basking
984330	SCOC	22-Sep	Rock Creek area	Klickitat	T5N R18E S17	Lone Pine Butte	Box Canyon Rd., 5.75 mi. E of Hwy 97	5087180	687320	VES (day)	P.Pine, O. Oak & bitterbrush	rocks	1149	1 juvenile (young of year) & 1 adult	basking & hunting
984350	SCOC	22-Sep	Rock Creek area	Klickitat	T5N R18E S20	Lone Pine Butte	NE corner of BLM property, edge of stream bed	5096700	687980	VES (day)	P.Pine, O. Oak & bitterbrush	decaying pine log	1345	1 adult	escaping



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984360	SCOC	22-Sep	Rock Creek area	Klickitat	T5N R18E S20	Lone Pine Butte	approx. .3 mi. S or stream bed	5086140	687980	VES (day)	P.Pine & O. Oak	all on down wood	1455	2 adults (1 male) & 1 juv (y.o.y.)	*
984370	SCOC	22-Sep	Rock Creek area	Klickitat	T5N R18E S20	Lone Pine Butte	approx. .15 mi. E after turn onto E-W running Bean Brothers Sons fence line	5084960	688240	VES (day)	P.Pine, O. Oak & bitterbrush	decaying log	1526	1 juvenile (young of year)	*
984380	SCOC	22-Sep	Rock Creek area	Klickitat	T5N R18E S20	Lone Pine Butte	*	5084980	688300	VES (day)	P.Pine, O. Oak & bitterbrush	base of dead oak tree	1538	1 juvenile (young of year)	*
984400	SCOC	22-Sep	Rock Creek area	Klickitat	T5N R18E S20	Lone Pine Butte	*	5085760	688380	VES (day)	P.Pine, O. Oak & bitterbrush	small rock	1647	1 juvenile (young of year)	did not move, hand captured
984410	SCOC	22-Sep	Rock Creek area	Klickitat	T5N R18E S20	Lone Pine Butte	*	5085840	688380	VES (day)	P.Pine, O. Oak & bitterbrush	*	1700	1 adult male & 1 juvenile	*
984440	SCOC	23-Sep	Rock Creek area	Klickitat	T5N R18E S17	Lone Pine Butte	Box Canyon Rd., 5.3 mi. E of Hwy 97	5087320	686680	VES (day)	Oregon oak-p. pine-pond	in clump of oaks	1023	1 adult male	escaping
984460	SCOC	23-Sep	Rock Creek area	Klickitat	T5N R18E S20	Lone Pine Butte	stream in SE quarter of section 20	5085620	688360	VES (day)	Oregon oak-ponderosa pine-stream	on log on stream bank	1338	1 juvenile	also dogwood, cattle impact
984470	SCOC	23-Sep	Rock Creek area	Klickitat	T5N R18E S20	Lone Pine Butte	approx. .1 mi. S of stream in SE quarter of section 20	5085420	688360	VES (day)	Oregon oak-grass understory	in oak log w/in oak patch	1502	1 large adult	no pines in this area
984570	SCOC	23-Sep	Rock Creek area	Klickitat	T5N R18E S24	Bickleton NW	Goldendale Hwy., 7.25 mi. NE from Rock Creek Rd.	5086740	694700	road (day)	Oregon oak-ponderosa pine-bitterbrush	paved road	1824	1 juvenile (young of the year)	dead on road
984610	SCOC	23-Sep	Rock Creek area	Klickitat	T4N R18E S15	Luna Gulch	Goldendale Hwy., 2.35 mi. W of Rock Creek Rd.	5077740	690680	road (day)	rabbitbrush-grassy area	paved road	1902	1 adult	dead on road
984420	THIS	22-Sep	Rock Creek area	Klickitat	T5N R17E S15	Satus Pass	Box Canyon Rd., 1.15 mi. E of Hwy 97	5087420	680220	road (day)	Oregon oak-ponderosa pine	paved road	1800	1 adult	can see alders-prob. a wetland
984430	THIS	23-Sep	Rock Creek area	Klickitat	T5N R18E S18	Lone Pine Butte	Box Canyon Rd., 5.25 mi. E of Hwy 97	5087340	686620	VES (day)	Oregon oak-p. pine-stream	edge of stream	1000	1 juvenile	foraging



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984660	COCO	23-Sep	Rock Creek project	Klickitat	T4N R16E S16	Goldendale	Goldendale Observatory, .1 mi. S of the parking lot	5078100	669700	road (night)	Oregon oak forest	paved road	2013	1 adult	dead on road
984710	DIPU	24-Sep	Rock Creek project	Skamania	T1N R6E S5	Multnomah Falls	Hwy 14, 2.5 mi. E of Prindles	5050100	570400	road (day)	mixed forest-thick canopy	paved road	1157	1 adult	dead on road (collected)
984670	PICA	24-Sep	Rock Creek project	Klickitat	T2N R14E S14	*	Hwy 14, 1.2 mi. E of entrance to Avery boat launch	5058500	658860	road (day)	*	paved road	*	1 juvenile	dead on road
984680	PICA	24-Sep	Rock Creek project	Klickitat	T2N R14E S16	Dalles North	Hwy 14 at Murdock, .05 mi W of Mt. Hood Rd.	5057120	641100	road (day)	grassland & rock outcrops	paved road	1016	1 juvenile	dead on road
984690	RACAT	24-Sep	Rock Creek project	Skamania	T2N R7E S14	*	Hwy 14, .1 mi. W of Bridge of the Gods	5056800	585280	road (day)	pond-hardwoods	shore of pond	1130	1 adult female	sitting on shore
984700	THIS	24-Sep	Rock Creek project	Clark	T1N R4E S24	*	Hwy 14 at Lawton Creek Bridge	5045400	557320	road (day)	*	paved road	1229	1 adult	dead on road
982760	HYRE	10-May	Saddle Mountain	Grant	T16N R23E S35	Beverly	Crab Creek Road, 1.3 mi. E of Hwy 243	*	*	call (night)	shrub-steppe	unknown	2232	adult males	chorusing
982770	HYRE	10-May	Saddle Mountain	Grant	T16N R23E S35	Beverly	Crab Creek Road, 1.55 mi. E of Hwy 243	*	*	call (night)	shrub-steppe	unknown	2237	adult males	chorusing
982850	HYRE	10-May	Saddle Mountain	Grant	T16N R23E S36	Beverly	Crab Creek Road, 2.8 mi. E of Hwy 243	*	*	Call (night)	shrub-steppe	unknown	2319	~2 adult males	calling
982870	HYRE	10-May	Saddle Mountain	Grant	T16N R23E S31	Beverly	Crab Creek Road, 3.3 mi. E of Hwy 243	*	*	Call (night)	shrub-steppe	unknown	NR	>5 adult males	chorusing
982880	HYRE	10-May	Saddle Mountain	Grant	T16N R23E S32	Beverly	Crab Creek Road, 4.0 mi. E of Hwy 243	5190320	282600	Road (night)	shrub-steppe	gravel road	2334	1 adult male	*
982890	HYRE	10-May	Saddle Mountain	Grant	T16N R23E S33	Beverly	Crab Creek Road, 5.5 mi. E of Hwy 243	*	*	call (night)	shrub-steppe	unknown	2347	~3 adult males	calling



Public Lands Inventory

16

BLM 1998 data

Data number	Species code	Date	Location	County	Township, range, section	7.5' USGS topo map	Description	UTM Zone 11 North	UTM Zone 11 East	Survey method	General Habitat	Micro habitat	Time	Qty., Life stage & Sex	Activity / comment
98690	RACAT	30-Mar	Saddle Mountain	Grant	T15N R23E S10	Beverly	Hwy 243, .65 mi S of Lower Crab Creek Road, .5 mi. W of hwy in pond	5187540	276900	VES (day)	basalt pond - shrub-steppe	shore & water	1545	2 juveniles & 1 larva	1 juvenile sick on shore
982720	RACAT	10-May	Saddle Mountain	Grant	T15N R23E S10	Beverly	Hwy 243, .65 mi S of Lower Crab Creek Road, .5 mi. W of hwy in pond	5187540	276900	call (night)	basalt pond - shrub-steppe	unknown	2200	>2 adult males	calling
982730	SCIN	10-May	Saddle Mountain	Grant	T15N R23E S10	Beverly	could hear calling from across the Columbia River	*	*	call (night)	unknown	unknown	2200	unknown	chorusing
982740	SCIN	10-May	Saddle Mountain	Grant	T16N R23E S34	Beverly	Crab Creek Road, .7 mi. E of Hwy 243	5190500	277200	road (night)	shrub-steppe	gravel road	2226	1 adult	foraging?
982750	SCIN	10-May	Saddle Mountain	Grant	T16N R23E S34	Beverly	Crab Creek Road, .75 mi. E of Hwy 243	5190500	277280	road (night)	shrub-steppe	gravel road	2226	1 adult	dead on road (collected)
982780	SCIN	10-May	Saddle Mountain	Grant	T16N R23E S35	Beverly	Crab Creek Road, 1.65 mi. E of Hwy 243	5190380	278700	road (night)	shrub-steppe	gravel road	2238	1 juvenile	foraging?
982790	SCIN	10-May	Saddle Mountain	Grant	T16N R23E S35	Beverly	Crab Creek Road, 1.85 mi. E of Hwy 243	5190360	279020	road (night)	shrub-steppe	gravel road	2243	1 juvenile	foraging?
982800	SCIN	10-May	Saddle Mountain	Grant	T16N R23E S36	Beverly	Crab Creek Road, 2.2 mi. E of Hwy 243	5190360	279620	road (night)	shrub-steppe	gravel road	2246	1 juvenile	foraging?
982810	SCIN	10-May	Saddle Mountain	Grant	T16N R23E S36	Beverly	Crab Creek Road, 2.25 mi. E of Hwy 243	5190360	279700	road (night)	shrub-steppe	gravel road	2247	1 juvenile (tiny)	foraging?
982820	SCIN	10-May	Saddle Mountain	Grant	T16N R23E S36	Beverly	Crab Creek Road, 2.4 mi. E of Hwy 243	5190360	279940	road (night)	shrub-steppe	gravel road	2250	1 juvenile	foraging?
982830	SCIN	10-May	Saddle Mountain	Grant	T16N R23E S36	Beverly	Crab Creek Road, 2.5 mi. E of Hwy 243	5190340	280100	road (night)	shrub-steppe	gravel road	2252	1 adult	foraging?
982840	SCIN	10-May	Saddle Mountain	Grant	T16N R23E S36	Beverly	Crab Creek Road, 2.55 mi. E of Hwy 243	5190340	280180	road (night)	shrub-steppe	gravel road	2254	1 adult	foraging?



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982850	SCIN	10-May	Saddle Mountain	Grant	T16N R23E S36	Beverly	Crab Creek Road, 2.35 mi. E of Hwy 243, S side of rd.	5189920	279940 (approx.)	Call (night)	shrub-steppe	unknown	2254	adult males	chorsing
984120	UTST	19-Aug	Saddle Mountain	Grant	T15N R23E S24	Beverly	Saddle Mountain, eastern area	5184520	279640	VES (day)	shrub-steppe & loamy soils	edge of sagebrush	1158	1 juvenile	basking
982710	PICA	10-May	Saddle Mountain	Grant	T15N R23E S11	Beverly	Hwy 243, .35 mi. S of Lower Crab Creek Rd., .15 mi. E of rd.	5187960	277380	VES (day)	dune - shrub-steppe	grass & forbes	1755	1 adult	basking
982610	SCGR	10-May	Saddle Mountain	Grant	T15N R23E S10	Beverly	Hwy 243, .7 mi. S of Lower Crab Creek Rd., .75 mi. E of rd.	5187420	277140	VES (day)	dune - shrub-steppe	edge of buckwheat	1320	1 adult	basking
982620	SCGR	10-May	Saddle Mountain	Grant	T15N R23E S10	Beverly	Hwy 243, .8 mi. S of Lower Crab Creek Rd., .05 mi. E of rd.	5187280	277080	VES (day)	dune - shrub-steppe	edge of rabbitbrush	1400	1 adult	basking
982630	SCGR	10-May	Saddle Mountain	Grant	T15N R23E S10	Beverly	Hwy 243, .825 mi. S of Lower Crab Creek Rd., .5 mi. E of rd.	5187240	277060	VES (day)	dune - shrub-steppe	edge of rabbitbrush	1423	1 adult	basking
982650	SCGR	10-May	Saddle Mountain	Grant	T15N R23E S10	Beverly	Hwy 243, .85 mi. S of Lower Crab Creek Rd., .5 mi. E of rd.	5187180	277020	VES (day)	dune - shrub-steppe	edge of green rabbitbrush	1800	1 adult	basking
982660	SCGR	10-May	Saddle Mountain	Grant	T15N R23E S10	Beverly	Hwy 243, .55 mi. S of Lower Crab Creek Rd., .15 mi. E of rd.	5187660	277300	VES (day)	dune - shrub-steppe	dried Russian thistle	1616	1 juvenile	escaping
982670	SCGR	10-May	Saddle Mountain	Grant	T15N R23E S11	Beverly	Hwy 243, .55 mi. S of Lower Crab Creek Rd., .25 mi. E of rd.	5187700	277460	VES (day)	dune - shrub-steppe	under green rabbitbrush	1632	1 adult	escaping
982680	SCGR	10-May	Saddle Mountain	Grant	T15N R23E S11	Beverly	Hwy 243, .45 mi. S of Lower Crab Creek Rd., .35 mi. E of rd.	5187760	277680	VES (day)	dune - shrub-steppe	basalt outcropping	1709	1 adult	escaping
982690	SCGR	10-May	Saddle Mountain	Grant	T15N R23E S11	Beverly	Hwy 243, .35 mi. S of Lower Crab Creek Rd., .35 mi. E of rd.	5188040	277780	VES (day)	dune - shrub-steppe	basalt outcropping	1722	1 adult	basking
982700	SCGR	10-May	Saddle Mountain	Grant	T15N R23E S11	Beverly	Hwy 243, .35 mi. S of Lower Crab Creek Rd., .35 mi. E of rd.	5188080	277780	VES (day)	dune - shrub-steppe	edge of bitterbrush	1732	1 adult male & 1 female	basking



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982840	UTST	10-May	Saddle Mountain	Grant	T15N R23E S10	Beverly	Hwy 243, .7 mi. S of Lower Crab Creek Rd., .5 mi. E of rd.	5187420	278200	VES (day)	dune - shrub-steppe	on large rock	1515	1 adult	basking
983010	AMMA	11-May	Saddle Mountain area	Grant	T16N R23E S36	Beverly	Lower Crab Creek Rd., 2.6 mi. E from Hwy 243	5190360	280280	dip net (day)	wetland - shrub-steppe	forested wetland	1605	3 larvae	collected 1 - died during metamorph.
982930	COCO	11-May	Saddle Mountain area	Grant	T16N R23E S 36	Beverly	Lower Crab Creek Rd., 2.4 mi. E of Hwy 243, ~.3 mi S of rd.	5189920	279940	VES (day)	shrub-steppe	short rushes	1315	1 adult	escaping
984090	COCO	18-Aug	Saddle Mountain area	Grant	T16N R24E S31	Beverly SW	Lower Crab Creek Rd., 3.05 mi. E of Hwy 243	5190340	281100	VES (day)	shrub-steppe & Russian olive tree	paved road	>1730	1 adult	dead on road
984130	COCO	20-Aug	Saddle Mountain area	Grant	T16N R23E S16	Beverly	Hwy 243, .25 mi. S of entrance to Wanapum Dam	5194940	274780	road (day)	shrub-steppe & rocky outcrops	paved road	0950	1 neonate	dead on road
984150	COCO	20-Aug	Saddle Mountain area	Grant	T14N R14E S3	Priest Rapids	Hwy 243, 1 mi. N of 26 SW Rd., 1 mi. S of 24 SW	578320	277130	road (day)	shrub-steppe agriculture	paved road	1445	1 neonate	dead on road
984160	COCO	20-Aug	Saddle Mountain area	Grant	T14N R23E S15	Priest Rapids	Hwy 243, .1 mi. N of 26 SW rd.	5176780	277100	road (day) *		paved road	1452	1 neonate	dead on road
982940	HYRE	11-May	Saddle Mountain area	Grant	T16N R23E S 36	Beverly	Lower Crab Creek Rd., 2.4 mi. E of Hwy 243, ~.3 mi S of rd.	5189920	279940	VES (day)	shrub-steppe & creek	shore of flooded ORV trail	1325	2 adults	one frog was missing rt. Arm
983000	HYRE	11-May	Saddle Mountain area	Grant	T16N R23E S36	Beverly	Lower Crab Creek Rd., 2.6 mi. E from Hwy 243	5190360	280280	dip net (day)	wetland - shrub-steppe	forested wetland	1605	>50 tadpoles	captured 1-2 in every dip
984110	PICA	18-Aug	Saddle Mountain area	Grant	T16N R23E S4	Vantage	Hwy 243, 1.45 mi. S of Hwy 26	5190400	278400	road (night)	shrub-steppe & rocky outcrops	paved road	2230	1 adult	dead on road
984140	PICA	20-Aug	Saddle Mountain area	Grant	T18N R23E S4	Vantage	Hwy 243, 2.1 mi. N of entrance to Wanapum Dam	5198720	275570	road (day)	shrub-steppe & rocky outcrops	paved road	1000	1 adult	dead on road



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982960	PICT	11-May	Saddle Mountain area	Grant	T16N R23E S31	Beverly SE	Lower Crab Creek Rd., 3.15 mi. E of Hwy 243	5190340	281240	Road (day)	shrub-steppe (w/ intro. Sp.)	gravel road	>1400	1 adult	basking
982970	PICT	11-May	Saddle Mountain area	Grant	T16N R23E S31	Beverly SE	Lower Crab Creek Rd., 3.3 mi. E of Hwy 243	5190340	281500	Road (day)	shrub-steppe (w/ intro. Sp.)	gravel road	>1400	1 adult	basking
982980	PICT	11-May	Saddle Mountain area	Grant	T16N R23E S31	Beverly SE	Lower Crab Creek Rd., 3.9 mi. E of Hwy 243	5190380	282420	VES (day)	shrub-steppe - grassy area	under piece of metal	>1400	1 juvenile	sheltering
982600	RACAT	10-May	Saddle Mountain area	Grant	T15N R23E S10	Beverly	Hwy 243, .65 mi. S of Lower Crab Creek Rd., .05 mi. W of rd.	5187540	276900	VES (day)	pond - shrub steppe	in water & on shore	1130	tadpoles, 6 juv., 13 adults	basking, escaping & gulping
984100	RACAT	18-Aug	Saddle Mountain area	Grant	T15N R23E S10	Beverly	Columbia River shore and basalt pond	5187540	279740	VES (day)	river & pond - riparian vegetation	basalt pond & shore of river	>1900	>100 tadpoles & 1 juvenile	tadpoles dead - pond dried out
982920	SCIN	11-May	Saddle Mountain area	Grant	T16N R23E S36	Beverly	Lower Crab Creek Rd., 2.4 mi. E of Hwy 243, ~.3 mi S of rd.	5189920	279940	VES (day)	shrub-steeps & Russian olive trees	flooded ORV trail	1315	3 tadpoles	*
98820	AMMA	01-Apr	Seven Springs Dairy Road	Lincoln	T24N R34E S4	Swanson Lakes	Seven Springs Dairy Road, 11 mi. S of Creston	*	*	VES (day)	grassland - pothole pond	spike rush	1600	>5 egg masses	gills starting to form
98830	AMTI	01-Apr	Seven Springs Dairy Road	Lincoln	T24N R34E S4	Swanson Lakes	Seven Springs Dairy Road, 11 mi. S of Creston	*	*	VES & call (day) (incidental)	pothole pond - grassland	spike rush	1600	> 6 eggs	starting to elongate, one dead
98810	HYRE	01-Apr	Seven Springs Dairy Road	Lincoln	T24N R34E S4	Swanson Lakes	Seven Springs Dairy Road, 11 mi. S of Creston	*	*	VES & call (day)	pothole pond - grassland	shore	1545	3 adult males	chorusing
98850	AMMA	01-Apr	Swanson Lk. Wildlife Area	Lincoln	T25N R34E S33	Swanson Lakes	Swanson Lake Wildlife Management Area	*	*	VES (day)	Pot hole pond - grassland	under rock (adult)	1640	1 egg mass & 1 adult	sheltering
982900	SCIN	10-May	Vantage Bridge area	Grant	T16N R23E S28	Vantage	Hwy 243 & Hwy 26 junction, on E side of Hwy 26 (borrow pit)	5201880	274920	call (night)	shrub-steppe	flooded borrow pit (shallow)	0209	many adult males (>50 larvae)	chorusing - collected 2 larvae



Data number	Species code	Date	Location	County	Township, range, section	7.5' USGS topo map	Description	UTM Zone 11 North	UTM Zone 11 East	Survey method	General Habitat	Micro habitat	Time	Qty., Life stage & Sex	Activity / comment
98710	AMMA	30-Mar	Wilson Creek	Lincoln	T25N R31E S1	Govan	Lewis bridge, small wetland .025 mi. NW of bridge	5282780	361060	VES (day)	wetland - channelled scabland	water	1700	10 egg mass & 1 larva	larva with balancers
98720	HYRE	31-Mar	Wilson Creek	Lincoln	T26N R32E S30	Govan	Ponds nearest road	*	*	call (day)	channelled scabland - potholes	unknown	1845	2 adult males	calling
98730	THIS	31-Mar	Wilson Creek	Lincoln	T26N R32E S29	Govan	Govan Rd., near bridge over Wilson Creek	5287240	363100	incidental (day)	channelled scablands - creek	rock pile	1850	1 juvenile female	dead - much of body gone
982290	AMMA	30-Apr	Wilson Creek	Lincoln	T26N 32E S31	Govan	Govan Rd., .8 mi. S of bridge, .1 mi W of rd.	5285920	362800	VES (day)	creek - scabland	fence post (downed)	1553	1 adult	sheltering
98700	HYRE	30-Mar	Wilson Creek	Lincoln	T25N R31E S1	Govan	Lewis bridge, small wetland .025 mi. NW of bridge	5282780	361060	VES (day)	channelled scabland - wetland	shore & reed canary grass	1700	1 adult male & 1 egg mass	calling
982100	HYRE	29-Apr	Wilson Creek	Lincoln	T26N R32E S31	Govan	ponds in the NE area of section 31	5285920	362800	Call (night)	creek - scabland	unknown	2000	>20 adult males	chorusing
982110	HYRE	29-Apr	Wilson Creek	Lincoln	T26N R32E S31	Govan	ponds in the NE area of section 31	5285880	362300	Call (night)	creek - scabland	unknown	2000	>20 adult males	chorusing
983580	AM sp. (AMTI)	17-Jun	Wilson Creek area	Lincoln	T26N R32E S30	Govan	pond, 1.3 mi. S. of McKay-Govan intersect., ~.4 mi W of Govan Rd. (N fence)	5285960	362240	AFT	shrub-steppe - pond	water	1225	1 larva	also trapped a stickleback
983570	AMTI	17-Jun	Wilson Creek area	Lincoln	T26N R32E S31	Govan	pond, 1.3 mi. S. of McKay-Govan intersect., ~.4 mi W of Govan Rd. (S fence)	5285880	362320	AFT	shrub-steppe - pond	water	1130	5 larvae (large) & 1 adult	trapped (they were huge)
983550	COCO	17-Jun	Wilson Creek area	Lincoln	T26N R32E S29	Govan	Govan Rd., .35 mi. S of Wilson Creek	5286620	363120	Road (day)	shrub-steppe - creek	paved road	0937	1 adult	basking
983500	HYRE	16-Jun	Wilson Creek area	Lincoln	T26N R32E S5	Govan	Govan Rd., small pond 1.6 mi. S of gate into BLM property	5283460	362880	call (night)	shrub-steppe - creek	small pond	2257	adult males	chorusing



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983540	HYRE	16-Jun	Wilson Creek area	Lincoln	T26N R32E S29	Govan	Govan Rd., .5 mi S of McKay Rd. at bridge	5287220	363120	Call (night)	shrub-steppe - creek	creek	>2243	adult males	calling
983560	HYRE	17-Jun	Wilson Creek area	Lincoln	T26N R32E S31	Govan	Wilson Creek, 1.3 mi. S of McKay-Govan intersect., .15 mi. W of Govan Rd.	5285920	362700	AFT	shrub-steppe - creek	water	>1100	11 tadpoles	trapped (also two fish)
983590	HYRE	17-Jun	Wilson Creek area	Lincoln	T26N R32E S30	Govan	pond, 1.2 mi. S. of McKay-Govan intersect., ~.3 mi W of Govan Rd. (N fence)	5286060	362500	dip net (day)	shrub-steppe - pond	water	1355	2 larvae	well devel. hind limbs
983490	SCIN	16-Jun	Wilson Creek area	Lincoln	T26N R32E S31	Govan	Govan Rd., 1.45 mi. N of Lewis Bridge Rd.	5284910	362760	Road (night)	shrub-steppe - creek	paved road	2250	1 adult	foraging
983510	SCIN	16-Jun	Wilson Creek area	Lincoln	T26N R32E S31	Govan	Govan rd., 1.2 mi. N of Lewis Bridge Rd.	5284920	362760	Road (night)	shrub-steppe - creek	paved road	2338	1 adult	foraging
983520	SCIN	16-Jun	Wilson Creek area	Lincoln	T26N R32E S32	Govan	Govan rd., 1.6 mi. N of Lewis Bridge Rd.	5285580	362860	Road (night)	shrub-steppe - creek	paved road	2340	1 adult (small)	foraging
983530	SCIN	16-Jun	Wilson Creek area	Lincoln	T26N R32E S32	Govan	Govan rd., 1.7 mi. N of Lewis Bridge Rd.	5285740	362900	Road (night)	shrub-steppe - creek	paved road	2343	1 adult	foraging
982020	AMMA	29-Apr	Wilson Creek area	Lincoln	T26N R32E S31	Govan	Govan Rd., .8 mi. S of bridge, 10 yds. Upbank from creek	5285920	362800	VES (day)	scablands - creek - "pot hole" ponds	fence post (downed)	1000	1 adult	sheltering
982090	AMMA	29-Apr	Wilson Creek area	Lincoln	T25N R31E S12	Govan	spring in NE corner of section-.2 mi. SE of Lewis Bridge	5282500	361120	VES (day)	scabland - stream	water - mud bottom & algae	1845	> 15 larvae	balancers present
982280	AMMA	30-Apr	Wilson Creek area	Lincoln	T25N R31E S12	Govan	Lewis Bridge, .1 mi SE of bridge	5282680	361100	VES (day)	scabland - shrub-steppe	fence post (downed)	1400	1 adult	sheltering
982030	AMTI	29-Apr	Wilson Creek area	Lincoln	T26N R32E S31	Govan	Govan Rd., .8 mi. S of bridge, .425 mi. W of rd., pond N of fence line	5285960	362260	VES (day)	scablands - creek - "pot hole" ponds	pond	1100	>5 large larvae	foraging? (breaching at surface)



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982040	AMTI	29-Apr	Wilson Creek area	Lincoln	T26N R32E S31	Govan	Govan Rd., .8 mi. S of bridge, .4 mi. W of rd., pond S of fence line	5285880	362280	VES (day)	scablands - creek - "pot hole" ponds	pond	1215	>3 large larvae	foraging? (breaching at surface)
982070	CHPI	29-Apr	Wilson Creek area	Lincoln	T26N R32E S30	Govan	Govan Rd., .8 mi. S of bridge, .35 mi. W of rd., interm. pond (N. fence)	528640	362540	VES (day)	scablands - creek - "pot hole" ponds	shore	1300	carapace bones	dead (collected bones)
982230	COCO	30-Apr	Wilson Creek area	Lincoln	T25N R31E S12	Govan	rd. to watchable wildlife area parking lot, .025 mi S of Lewis Bridge Rd.	5282620	361120	Road (day)	scabland - shrub - steppe	gravel road	0955	2 adults	basking
982240	COCO	30-Apr	Wilson Creek area	Lincoln	T25N R31E S12	Govan	rd. to watchable wildlife area parking lot, .01 mi S of Lewis Bridge Rd.	5282500	361180	Road (day)	scabland - shrub - steppe	gravel road	1004	1 adult	basking
982270	COCO	30-Apr	Wilson Creek area	Lincoln	T25N R31E S12	Govan	Lewis Bridge, .1 mi SE of bridge	5282640	361100	VES (day)	scabland - shrub - steppe	under sagebrush near trunk	1347	1 adult (small)	*
982050	EUSK	29-Apr	Wilson Creek area	Lincoln	T26N R32E S31	Govan	Govan Rd., .8 mi. S of bridge, .425 mi. W of rd., uphill from pond	5285960	362320	VES (day)	scablands - creek - "pot hole" ponds	fence post (downed)	1245	1 adult	sheltering
982080	HYRE	29-Apr	Wilson Creek area	Lincoln	T25N R31E S12	Govan	spring in NE corner of section- 2 mi. SE of Lewis Bridge	5282500	361120	VES (day)	scabland - stream	shore & water	1845	1 egg mass & 2 adults	new egg mass & escaping
982140	SCIN	29-Apr	Wilson Creek area	Lincoln	T25N R32E S6	Govan	Govan rd., .2 mi. N of Lewis Bridge Road	5282980	362800	Road (night)	scabland - shrub - steppe	paved road	>2100	1 adult	foraging?
982150	SCIN	29-Apr	Wilson Creek area	Lincoln	T25N R32E S5	Govan	Govan rd., .425 mi. N of Lewis Bridge Rd.	5284340	362840	Road (night)	scabland - shrub - steppe	paved road	>2100	1 adult	foraging?
982160	SCIN	29-Apr	Wilson Creek area	Lincoln	T25N R32E S5	Govan	Govan rd., .45 mi. N of Lewis Bridge Rd.	5284400	362880	Road (night)	scabland - shrub - steppe	paved road	>2100	1 juvenile & 1 adult	foraging?



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982170	SCIN	29-Apr	Wilson Creek area	Lincoln	T25N R32E S5	Govan	Govan rd., 1.1 mi. N of Lewis Bridge Rd.	5284240	362900	Road (night)	scabland - shrub - steppe	paved road	>2100	1 adult	foraging?
982180	SCIN	29-Apr	Wilson Creek area	Lincoln	T25N R32E S32	Govan	Govan rd., 1.2 mi. N of Lewis Bridge Rd.	5284420	362860	Road (night)	scabland - shrub - steppe	paved road	>2100	1 adult	foraging?
982190	SCIN	29-Apr	Wilson Creek area	Lincoln	T25N R32E S32	Govan	Govan rd., 1.5 mi. N of Lewis Bridge Rd.	5284860	362780	Road (night)	scabland - shrub - steppe	paved road	>2100	1 juvenile	foraging?
982200	SCIN	29-Apr	Wilson Creek area	Lincoln	T25N R32E S32	Govan	Govan rd., .8 mi. S of bridge on Govan Rd.	5285920	363000	Road (night)	scabland - shrub - steppe	paved road	>2100	1 adult	foraging?
982210	THEL	30-Apr	Wilson Creek area	Lincoln	T26N R32E S31	Govan	Govan Rd., 1.2 mi. S of bridge (at gravel pit)	5285280	362780	Road (day)	scabland - shrub - steppe	paved road	0911	1 adult	dead on road
982220	THEL	30-Apr	Wilson Creek area	Lincoln	T25N R31E S1	Govan	Lewis Bridge Rd., .15 mi N of bridge	5283020	361060	Road (day)	scabland - shrub - steppe	gravel road	0935	1 adult	basking
982250	THEL	30-Apr	Wilson Creek area	Lincoln	T25N R32E S5	Govan	Govan Rd., .525 mi. N of Lewis Bridge Rd.	5283480	362940	Road (day)	scabland - shrub - steppe	paved road	1029	1 adult	dead on road
982260	THEL	30-Apr	Wilson Creek area	Lincoln	T25N R32E S5	Govan	Govan Rd., .55 mi. N of Lewis Bridge Rd.	5283520	362980	Road (day)	scabland - shrub - steppe	paved road	1033	1 adult	dead on road
982090	THIS	29-Apr	Wilson Creek area	Lincoln	T26N R32E S30	Govan	Govan Rd., .8 mi. S of bridge, .05 mi N of fence line, on creek edge	5285040	362700	VES (day)	scablands - creek - "pot hole" ponds	reed canary grass	1315	1 adult	escaping (red bars)

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